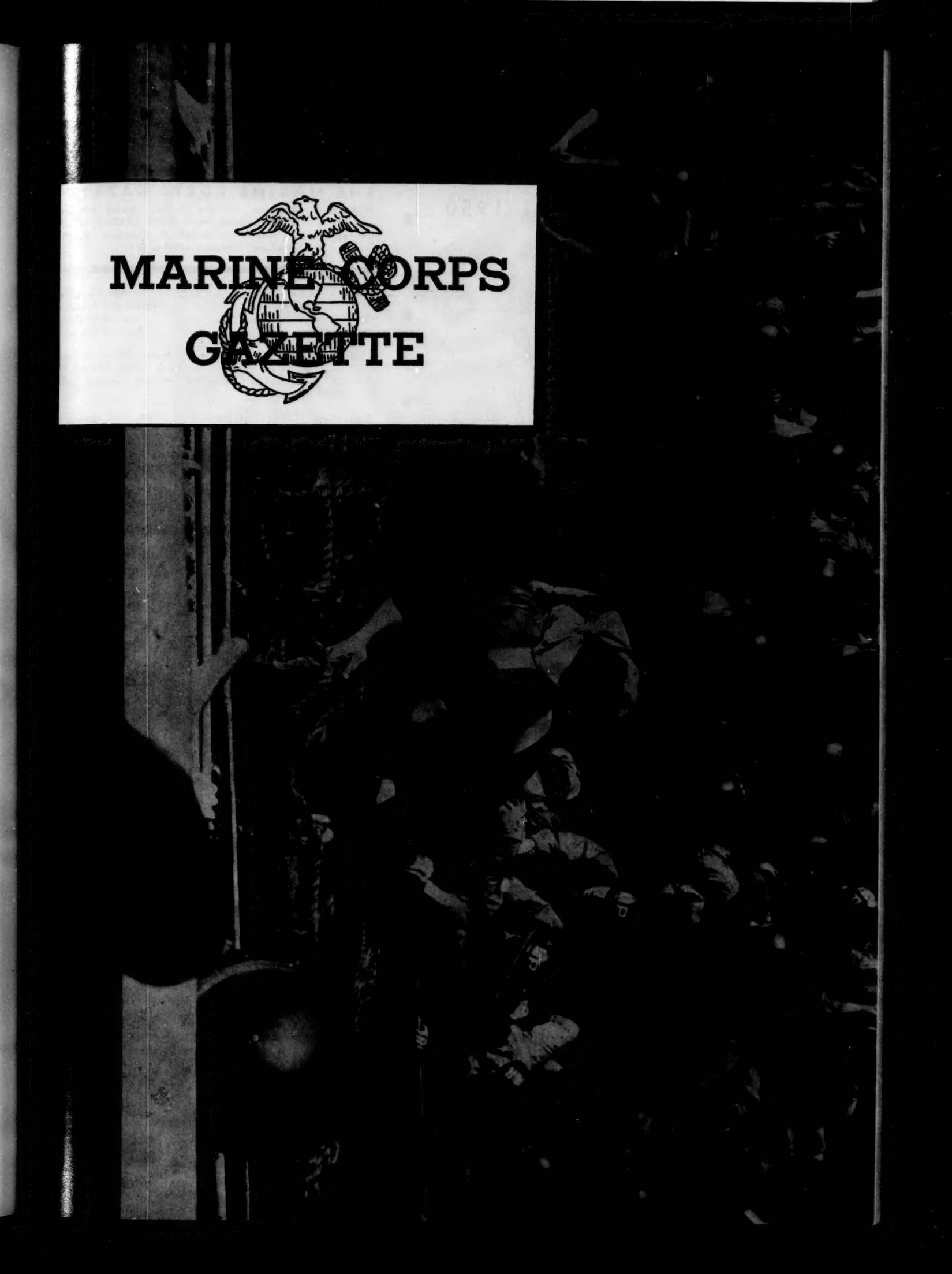

MARINE CORPS
GAZETTE

Marine Corps Gazette

APRIL 1950

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Picture credits: All pictures official Army, Navy, Air Force, or Marine Corps photos unless otherwise credited

THIS MONTH'S COVER: By now the MPs shown on the cover are back patrolling their beats, with scarcely a thought of a "wet net" landing practice. When the picture was taken, however, *Operation Portrex* was still in the future and many of the troops earmarked to participate in *Portrex* were being shown the right way to make an amphibious landing by their instructors, the Marines at TTU Lant. The training for this Joint Armed Forces Amphibious-Airborne Exercise was done at the U.S. Naval Amphibious Base, located at Little Creek, Virginia.

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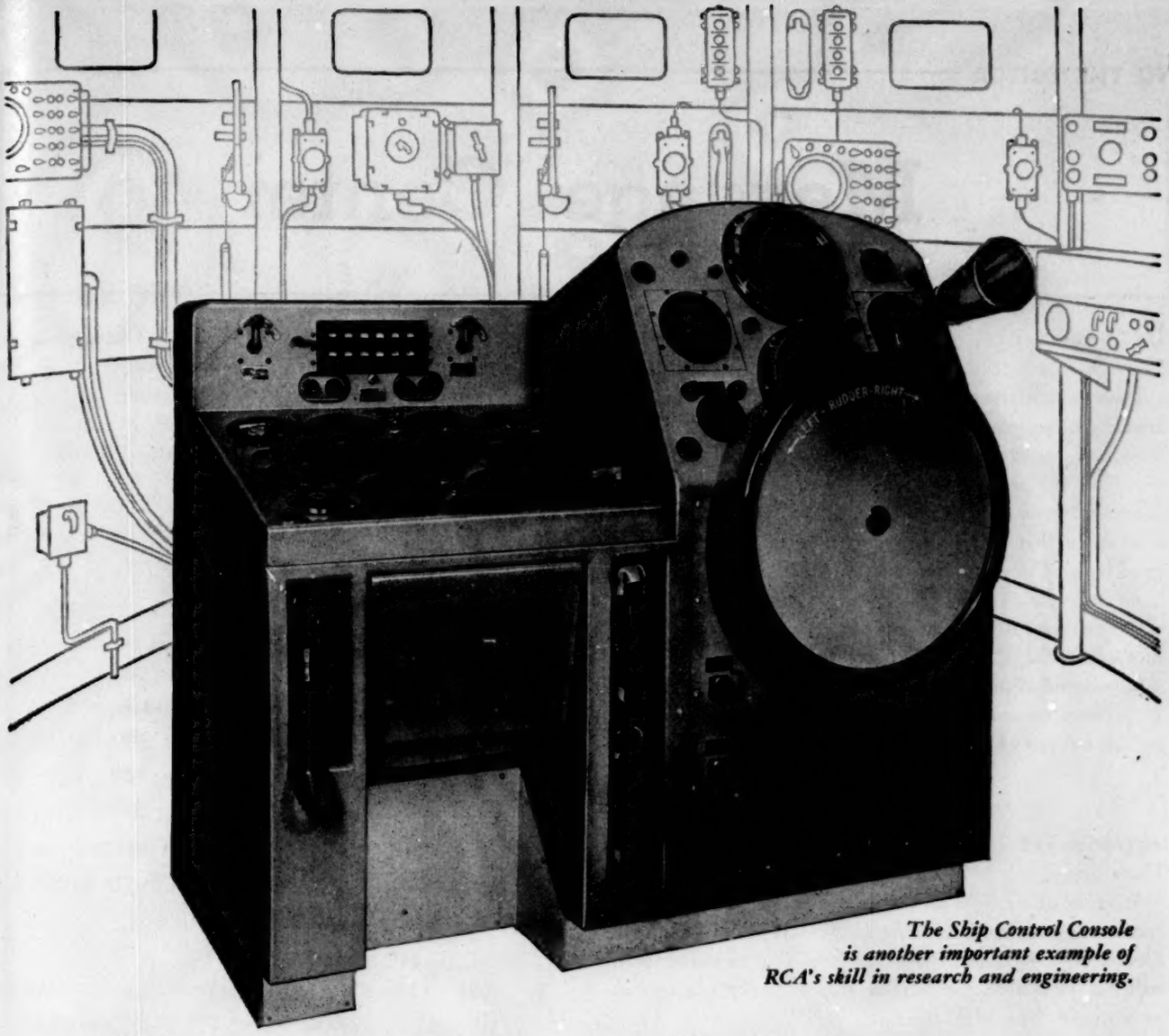
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ADVERTISING: Capt Murray Martin, USMCR, 2 West 46th Street, New York 19, N. Y. Phone LUxemburg 2-1540.

THIS MONTH AND NEXT — In the short span of five years radar grew from infancy to adolescence and became a big factor in naval and air operations. In his article *Primary Target: Radar*, beginning on page 42 of this issue, Capt Arvid F. Jouppi, USMCR, a member of the Sperry Gyroscope Corporation staff, discusses the role of radar in the next war. Capt Jouppi believes this electronic instrument will be of such importance as to make it the primary pre-invasion target of assault forces.

An article which should be of profound interest to all Marines will appear in the May GAZETTE. LtCol Edward F. Drake discusses all aspects of physical retirement from the service today. He makes a thorough analysis of the new retirement law, the steps involved in physical retirement, and brings to the attention of all enlisted personnel the provisions giving them their first physical retirement benefits.

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TO THE EDITOR

Message Center

On Gumbeating . . .

DEAR SIR:

I am an interested (and oftimes considerably enlightened) reader of the letters to the editor in the *Message Center*. Based on the screams of the wounded, arguments, gripes, criticisms, and proposals to "change everything" from the way it was to the way it should be and vice versa I proffer the observation that by these very signs we manifest a state of good health. May it long continue!

At the present rate of "gumbeating," it is fairly evident that the encumbents of the Marine Corps are a robust combination of the "ole Corps," the "new Corps," and the "future Corps." I fully intend to confine my personal worrying about what kind of a Corps we are, old, new, or otherwise, to the time when nobody has any complaints about anything.

A. L. BOWSER, JR.
Col, USMC

Aggressor Tactics . . .

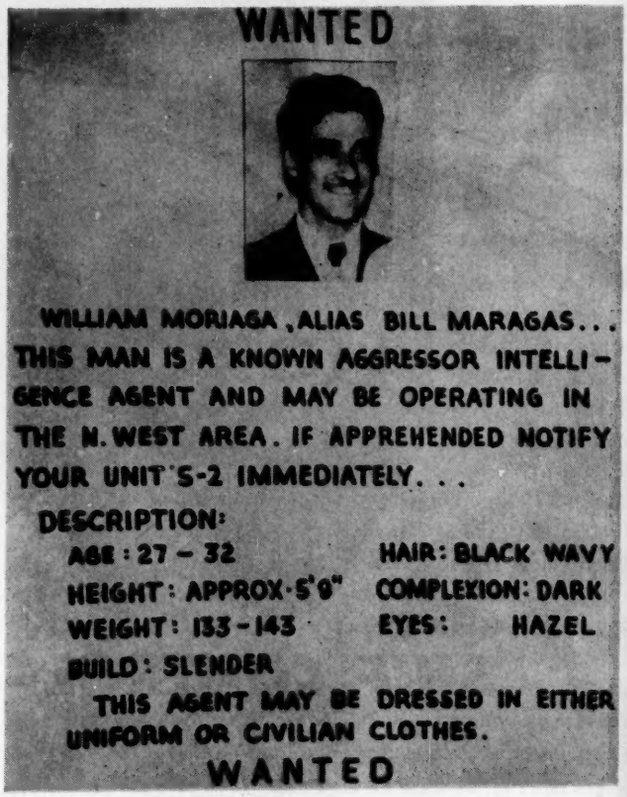
DEAR SIR:

As a bit of sidelight on the importance of using Aggressor tactics in peace time maneuvers (MARINE CORPS GAZETTE, December, 1949), the Army has been able to derive much valuable experience for sections that normally receive little or no value from such exercises.

On Operation MIKI, in which the Second Infantry Division participated during October, 1949, the counter-intelligence sections received an excellent workout. In particular, through the use of posters and propaganda they carried on active counter measures both to attain security for their own plans and to off-set actions by Aggressor agents.

The accompanying poster is an example of some of the material used. This particular poster was most effective in securing participation by the troops in that many suspects were brought in due to resemblence to the poster. One sergeant so much resembled the poster that he was brought in on five separate times by different people for questioning.

W. M. MILLER
Maj, USMC

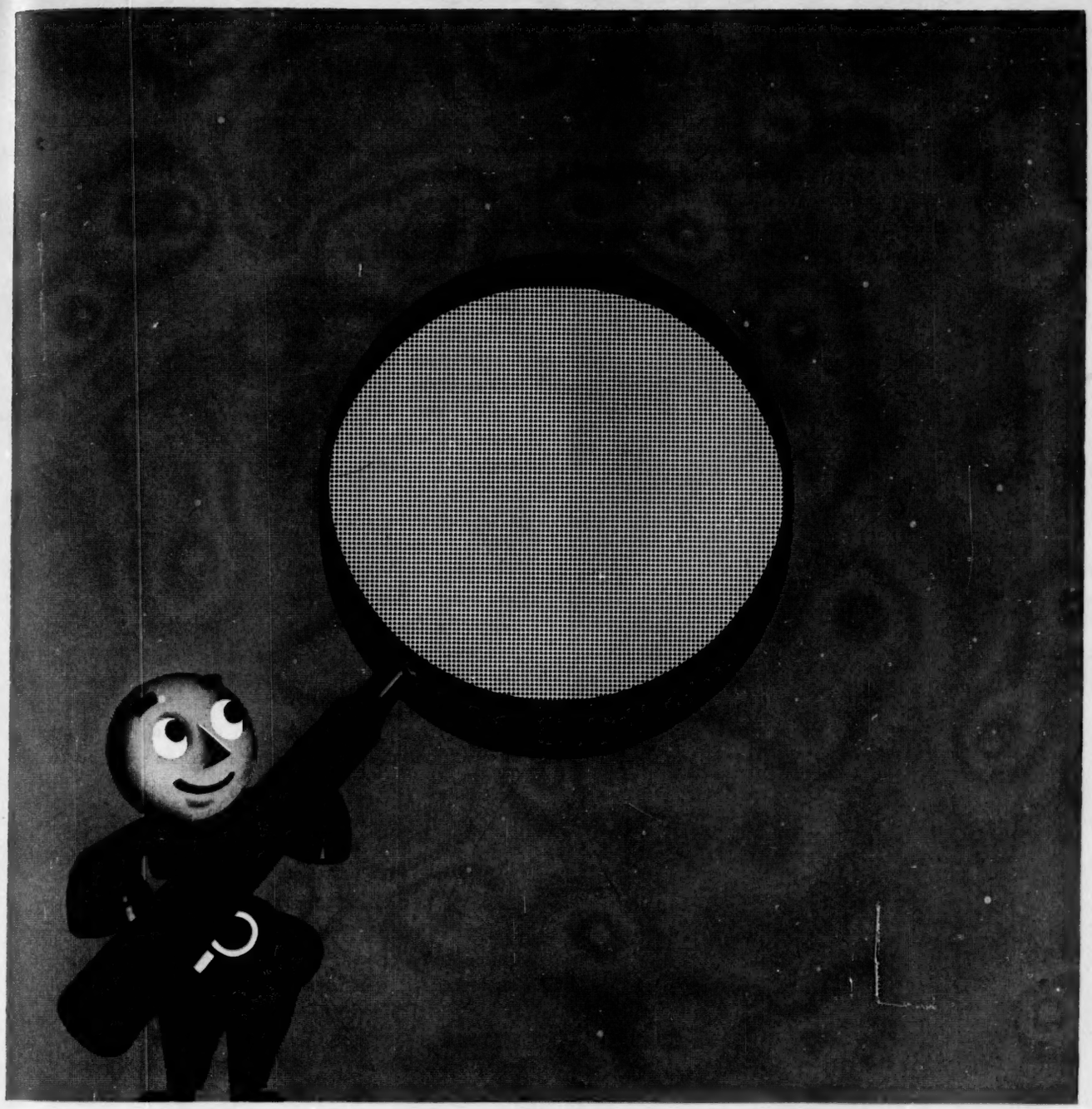


Col Carter's Identity Revealed . . .

DEAR SIR:

In view of the controversy now raging between various partisans of LtCol John Corbin (Tired) and LtCol Donald H. Carter (also Tired), personnel stationed at Headquarters Marine Corps have been besieged for information concerning the latter. After experiencing seemingly insurmountable difficulties, the lads have come up with only a modicum of information. By dint of exhaustive research and no inconsiderable effort, the enclosed photograph, believed to be one of the more recent of the esteemed gentleman, was located and is forwarded herewith. The Colonel has finally been persuaded to permit the use of this photograph with the proviso that it may be used again in the bulletin for the centennial reunion of his

Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.



Have you ever seen a MILLION?

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There are about one-half million dots in the entire panel above – so tiny and close they look like solid gray. But count 'em if you care to!

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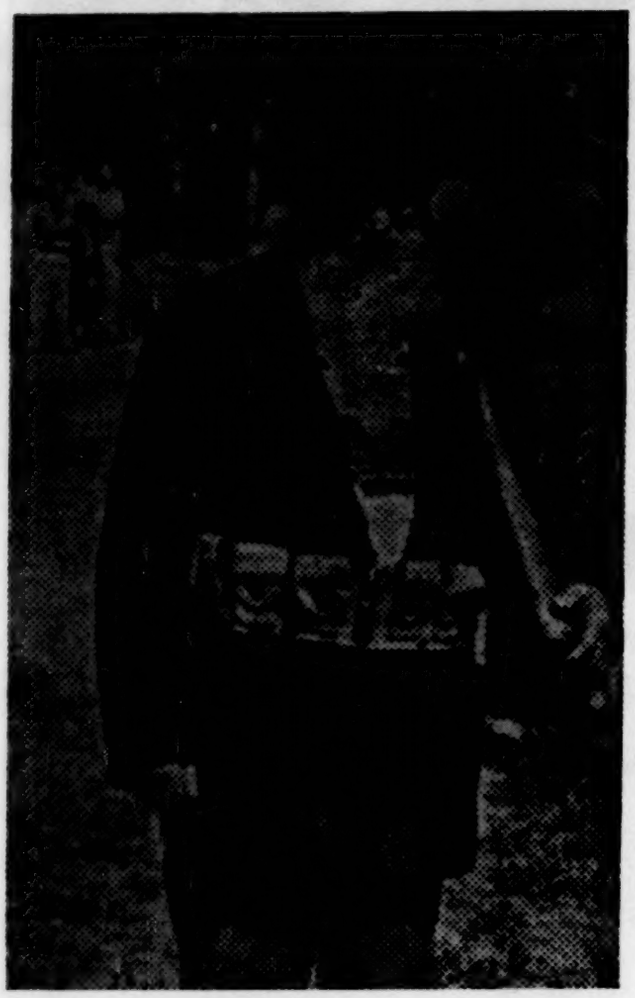
The simple fact that you can talk to any one of 40 million telephones at any time and at low cost is a measure of the value of your telephone to you.

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*33 *million in the Bell System, 7 million in independent connecting companies.*

Basic School class (which he proudly serves as Chairman, Committee on Customs and Traditions).

Although Col Carter may not be the oldest living Marine, he of certainty is among the oldest. His agelessness, and plethora of experience, moreover, necessarily qualify him as the outstanding Marine spokesman on the subject of military usages. A glance at the photograph indicates that Carter is the epitome of spit and polish.



The uniform affected by Col Carter includes not only the regulation Marine rifle belt, worn in prescribed fashion, but also the newly adopted campaign hat, which he wears simply to keep the sun off his beard. Being an advocate of color in dress, Carter, although despising change, recently adopted and now wears the soon-to-be sacred Marine Corps green, scarlet, and gold "old school" tie (generally worn only with civilian clothing) which appears proudly displayed beneath his hirsute adornment. In all other respects, however, his uniform is normal.

As a result of heroism displayed at the Battle of Chapultepec, the Colonel was awarded, and since has constantly worn the DFC. In more recent campaigns against the District of Columbia Indians, Carter won the Air Medal. Unfortunately the position of the "newfangled" Springfield hides his arduously earned campaign ribbons representing the Battle of Bladensberg, the Seminole War, the Assault of Derne, Gillespie's Expedition, and the Compromise of 1850. Although a charter member of the Marine Corps Association, Col Carter has failed to pay his dues since 26 April 1913.

Before his retirement on 1 January 1852 (hence Maj T. O. Vacancy's failure to find records containing Carterian data), Col Carter served under such illustrious commanders as Stephen Decatur, Archibald Henderson, Jacob Zeilin, and the famous old campaigner Col Nomme D. Plume. The Colonel's scrivenistic inspiration moreover, springs from such real living literary giants as George Elliott, Mark Twain, O. Henry, and Carter Dixon.

Col Carter is neither willing nor able to understand why a globe and anchor should have replaced the tradition-encrusted bugle as the Marine Corps insigne but in light of the present preference for cigarettes to snuff, and the recent authorization for enlisting females in the Marine Corps, he does appreciate why lace panties should grace post exchange shelves in lieu of Copenhagen. Although he is a great student of Xerxes, Carter has resigned himself to progress and is willing nonetheless to sacrifice a few of Xerxes' tactics to modern trends in society and warfare. He emphasizes, moreover, that perhaps either the atom bomb or the land mine might be a reasonable substitute for Caesar's short sword. The Carterian thesis is: "Perhaps there may be something to this thing called progress, after all; we should, therefore, go easy when we decry change."

SPROC ENIRAM, SN, AFU
Brevet

Sympatico . . .

DEAR SIR:

LtCol Willock (January GAZETTE) makes a lengthy but unconvincing attempt to persuade some — many — all of us to become linguists beyond the "kitchen, bar, and bedroom" stage. None will disagree with the desirability of having more accomplished linguists. The approach to the problem is a little misguided, however.

The Colonel's ideas, boiled down, seem to be that we should, by personal study and increase of official language schooling, move beyond the elementary stage so that: (a) we will be rated *simpatico* by Latin-Americans and others; and (b) we will have a sizeable pool of capable linguists "who might be of invaluable assistance for staff and operational duties in the event we are called upon to participate in an allied amphibious operation at some future date on the European continent."

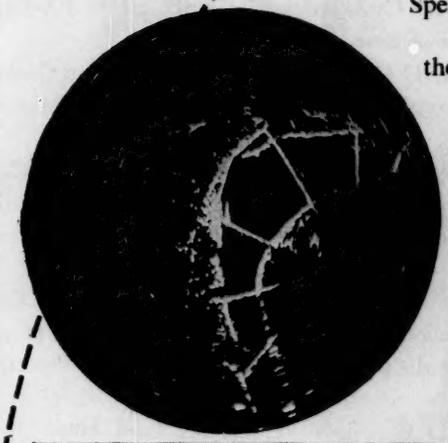
Unless implied in point (b), there is no reference made to the basic reason for language proficiency in the Marine Corps of today — namely, *intelligence*. *Simpatico* and liaison are strictly secondary reasons. Besides, the billet requirements for intelligence, *simpatico*, and liaison purposes are much lower than the article might lead us to believe. In a six division wartime Marine Corps, 200 officer linguists should take care of all billets, including necessary rotation, attrition, etc. Right now,

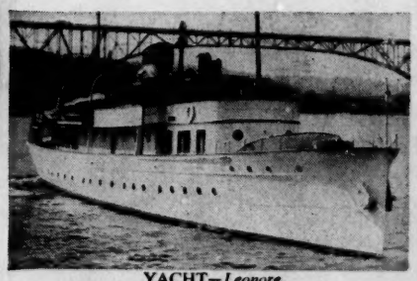
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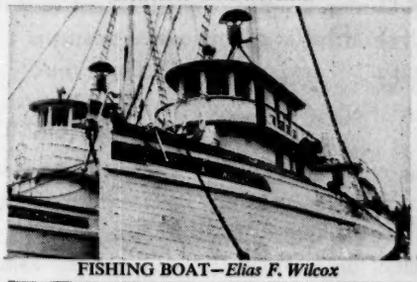
TANKER—*Esso Worcester*



YACHT—*Florence VI*



TUG—*Transfer No. 21*



FISHING BOAT—*Elias F. Wilcox*



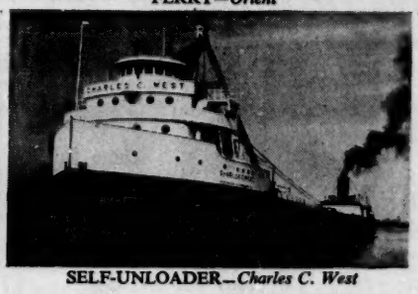
FERRY—*Orient*



RIVER TOWBOAT—*L. Wade Childress*



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there cannot be more than 17 or 18 Naval Attache billets, and perhaps half that many foreign mission and liaison billets for officers. The chances then that any officer will be assigned to a billet requiring knowledge beyond the "bar" stage are extremely limited—peace or war.

Furthermore, the majority of those sent to language billets are either trained by the Marine Corps, or, by their personal effort, "bone up" to a degree in the required tongue. Also, the Division of Plans and Policies has given a good deal of thought to the problems and has taken steps to train officers in the important languages as far as is consistent with the budget and personnel allowances.

The Colonel, obviously a linguist, has forgotten how difficult it is to progress beyond the elementary stage. If you have an aptitude for, and considerable interest in languages, by personal effort and a good deal of extra time you can become fairly proficient. Prosaic, linguistically inept ole beach-crunchers like most of us haven't the time, Col Willock's remarks to the contrary notwithstanding. As qualification for these statements I offer a "B+" average in eight years of academic training in four languages, and 10 months spent in Japan with a Hepburn volume in my hip pocket.

America is, after all, the arsenal of democracy and the Marine Corps is no small part of the stock in that arsenal. If the free world is to win in a hot war, it requires not only a daily job well done by each of us, but a good deal of extra-curricular professional study and creative military thinking. If an officer has time beyond this and the normal requirements of family or personal life, then let him become a student of the foreign languages — Russian above all others. For my money, too few of us can write a decent letter or make a passable talk to the troops. Therefore, in the time left after professional study and personal matters, we should learn *English* first, Russian second, then and only then, try to become *simpatico* to the Latins.

Fred E. Haynes
Maj, USMC

ID vs PX . . .

Dear Sir:

I have before me two identity cards, both issued by the Marine Corps. One is the *U. S. Marine Corps Identification Card, NavPers 546.* The other is a *Marine Corps Exchange Card*, issued, it says, in accordance with "ASER 2-101-A" (whatever that may be).

The former—my ID Card—is durably encased in celluloid and—to prevent misuse or misrepresentation—is fabricated by a tamper-proof photoprinting process. It bears what I am forced to admit is my photograph, together with photoprints of my file number and present rank. The latter—the PX Card, that is—is made of ordinary cardboard, typed by some Post Exchange clerk, and duly authenticated, if that is quite the word, by rubber-stamp signature.

Now what information do we find on these two vital documents?

(1) On the ID Card, my name; on the PX Card, my name (misspelled).

(2) On the ID Card, my signature; on the PX Card, my signature.

(3) On the ID Card, the color of my hair; on the PX Card, the color of my hair.

(4) On the ID Card, the color of my eyes; on the PX Card, the color of my eyes.

(5) On the ID Card, my weight; on the PX Card, my weight.

(6) On the ID Card, my date of birth; on the PX Card, my age on date of issue.

(7) On the ID Card, my height (verified by San Quentin style photo); on the PX Card, my height (verified by nothing).

(8) On the ID Card, my file number; on the PX Card, what whoever issued "ASER 2-101-A" is pleased (incorrectly) to call my "serial number," something that Marine officers don't possess.

(9) On the ID Card, my thumbprint; on the PX Card, thumbprints undoubtedly, but not visible except by FBI process.

So much for the points of similarity between the two cards. What about the important differences?

(1) The ID Card is white; the PX Card, blue.

(2) The ID Card is about one-eighth smaller, with square corners, and fits conveniently into the ordinary wallet; the PX Card is outsized, has rounded corners, and fits poorly.

(3) The ID Card sets forth no date of issue, but does show a date of expiration; the PX Card shows both date of expiration *and issue.*

That must be the reason. We have it at last.

Whoever originated "ASER-2-101-A" wants every Marine to carry the PX Card in addition to the ID Card so that, day or night, he will never be found unprepared to answer a tense, low-voice challenge: *"When was your PX Card issued?"*

R. D. Heinl, Jr.,
LtCol, USMC

P. S. A couple of years ago, I had a piece in the Gazette about administration being piled up for administration's sake. If this isn't a living example—with all the baneful consequences of wasted expense, time, bother, etc.—I'll eat the damn PX Card. Or maybe I ought to eat my ID Card, considering how useless it is inside a Marine Exchange.

Necktie . . .

Dear Sir:

Re LtCol R. D. Heinl, Jr.'s letter in the December Gazette proposing the adoption of a Marine necktie for wear with civilian attire, I would like to add my hearty endorsement.

Adoption of this manner of displaying our colors would add a valuable and tangible spoke to one of the strongest wheels of Marine Corps functioning, i.e., *superior esprit de corps.*

Such a device would help to bridge the gap between the professional Marine and civilian (ex or reserve) Marine when

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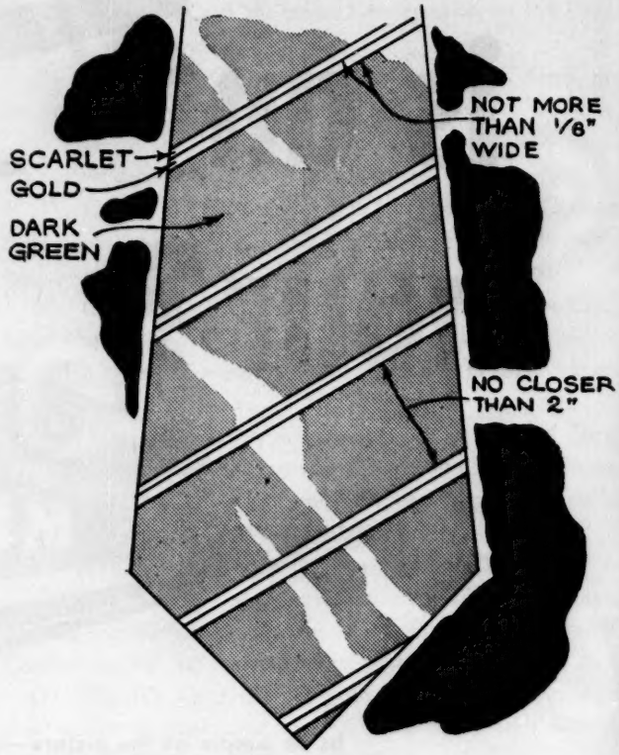
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both are in mufti and would no doubt be tickled to talk "corps shop" if either knew of the other's connection therewith.

The color scheme sounds excellent! Material should be the best cravat silk; the gold and scarlet stripes should not be too wide, nor spaced too close together (see sketch).



Put me down as your firm booster and distributor for the Chicago-Great Lakes area. It will be a pleasure.

GENE C. MARTIN
2dLt, USMC

WR Poster . . .

DEAR SIR:

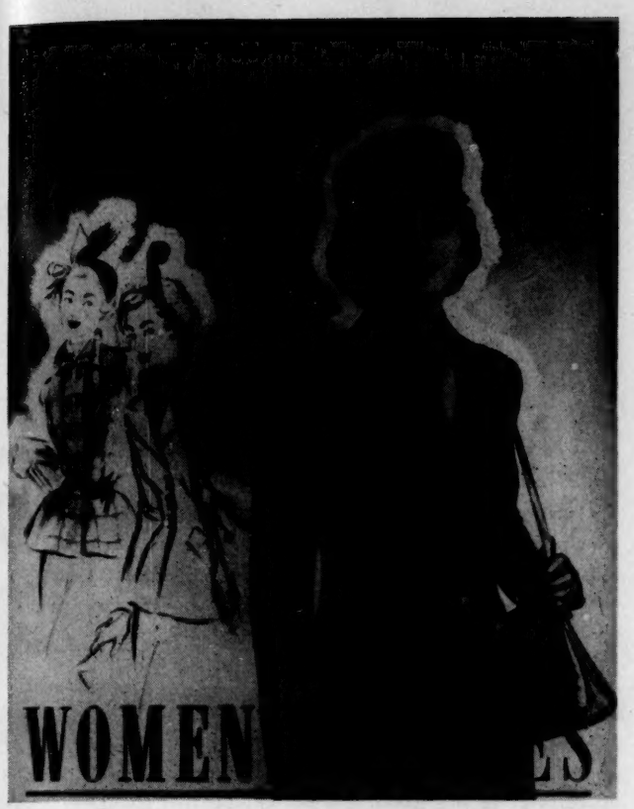
As a regular reader and subscriber to the Marine Corps GAZETTE, I was slightly disappointed in your article *The GAZETTE Takes A Look At Marine Recruiting Posters.*

It appears that the Women Marines do not rate a poster in your article. All posters shown were for the recruiting of male personnel. I enjoyed the article and leafed through the pages hurriedly to get to the period when posters of Women Reserves and the Women Marines appeared to the public, but, alas, not one. Even though our numbers at present do not even come near the percentage of male personnel, we, too, are proud of the fact that we are Marines.

Also, most of the Women Marines I know have never heard of the GAZETTE. It is my opinion that if your publicity agent would contact them, you would probably get quite a few subscriptions.

I really like the magazine.

CLARA L. LAPEAN
Cpl, USMCW



ED: The GAZETTE is proud that you are proud. No slight to Women Marines was intended by the omission of a WR poster. The GAZETTE is sorry to hear that so few Women Marines are acquainted with it. Evidently Marine Corps Memorandum 90-49 was not circulated as widely among our Women Marines as it should have been. We have no publicity agent, no billboards, no advertising campaign. It's up to you, and others like you, to pass the word along. Poster (left) is for you.

Amphibious Battles . . .

DEAR SIR:

Quite interested in the first article of Maj Dahl's proposed series *Decisive Amphibious Battles—I: Marathon.* As I am stationed in an NROTC Unit and teaching a course which includes some of these battles to be discussed, I wonder if it would be possible to obtain from the GAZETTE advance copies of Maj Dahl's articles? I would be very grateful for any help you can give me.

A. J. POILLON
1stLt, USMC

ED: Glad you liked *Marathon.* We'll try to send you advance copies when possible.

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Military Inventory Test . . .

DEAR SIR:

The *Cake and the Slice* (GAZETTE, January 1950) championed a good cause, but LtCol Phillips omitted an important consideration in the case of the *Administration* course.

The questions asked by the Military Inventory at the beginning of the year covered the "old" Marine Corps Administration system. So did those at the end of the year, although the instruction was based on the "new" system and no longer considered "muster rolls," "functional fields," or the old Service Record Book.

It is therefore small wonder that the students got any questions right and erroneous to attempt to draw any conclusions concerning the Administration course (at least from the results of the Military Inventory).

However, in my opinion, the Military Inventory is one tool which definitely has a place in all Marine Corps Schools, and it is too bad that it has been dropped—temporarily, I hope.

AN INTERESTED ADMINISTRATOR

Story of a Dream . . .

DEAR SIR:

Congratulations to you in publishing *The Story of A Dream,* and congratulations to the Marine Corps Institute in 30 years of service to our Corps. Would that shades of Generals John A. Lejeune and Smedley D. Butler and Col William C. Harllee arise in the Marine Corps of today. Though morale is not at the low ebb described of the troops following World War I, there is a similarity in that the routine of peacetime has become dull and unexciting, our most formidable adversary being the multitude of reports and other paper work that besets us.

I realize that lieutenants, like children, are better seen and not heard, but I do believe that the policies instituted by Gen Lejeune are equally suitable and adaptable for today's Corps as they were in 1920. We continue to recruit with the phrases "travel, adventure, and education"; lets make the education a part of our daily routine. Make supervised study of MCI courses a part of the training schedule; athletics or work for those who perfer them. This policy worked before. It would work again.

CHARLES W. BLYTH
1stLt, USMC

Mechanization . . .

DEAR SIR:

I hesitate to belabor further the topic, *Mechanization of the Amphibious Attack* but LtCol Stuart's letter published in the December issue of the GAZETTE seems to demand a clarification and a reaffirming of my stand.

In the first place, it appears that LtCol Stuart may have the wrong conception of amphibious operations as they relate to the mission of the Marine Corps. Our FMF units are conceived and organized on the premise that the average consolidated beach head to be secured by a Marine landing

force will have a maximum depth of approximately 12 miles. In the second place, the Marine Corps is primarily an infantry organization. Its potency lies in its readiness and its strategic mobility; its ability to move by land, sea or air at any time to any destination.

In the Marine Corps, tanks are a supporting arm of the infantry, the same as the close support aircraft, the artillery and the anti-tank weapons. There is no question but what mechanized forces will play a very important role in the next war, same as they did in the last; however, the Marine Corps is not organized or equipped to fulfill this role. From the mission assigned the Marine Corps, by law, it was not intended that it should become a mechanized force. It was intended that it remain an ever-ready, hard-hitting combined arms organization composed of infantry and those ever important supporting arms.

L. W. WALT
LtCol, USMC

Pick And Shovel Days . . .

DEAR SIR:

I have no suggestions to offer for I think you are doing a good job with the GAZETTE. Some of the old timers write to the GAZETTE that the Marine Corps isn't what it used to be. I agree with them, but why do they want to hold the Marines to the pick and shovel days. I went through Parris Island in 1917, and was the only Marine from this community then. But there were over 50 boys from here this last war and the boys that went to Parris Island told me how it was down there. I sure was glad to hear that they had it better than I did. My son is in Marine Aviation at Cherry Point. When he was home I could see that the training he received made him a better Marine than I was.

And in my time I got the best the Marines knew and had. The Marines haven't been blamed for losing a war yet. So the Marines are still taking in good fighting boys.

I like to read the GAZETTE and keep up with the Marines.

STEVE STEFANIK,
California, Pa.

Promotion System . . .

DEAR SIR:

Under the present promotion system there is no provision for "incentive" promotions. No provision for "ability" in the promotion system—only first, the time requirement before you can take an examination for promotion to master sergeant until he has four years time in grade as a technical sergeant. In other words no matter how intelligent a technical sergeant may be, no matter what ability he has, he must wait four years before he can take an examination for promotion. This causes unrest among many of the staff NCOs. At the present time under this system, a technical sergeant has to wait four years—a long time before he can prove he has the knowledge to pass an examination for promotion. It is realized that promotions in the Marine Corps for top pay grades are slow, almost to a standstill, but it would be better to give examinations, and the men know whether they are qualified or not, then at least they can say "I passed my examination for promotion." With this feeling a person may also get discouraged, but at least he will be able to rest assured in the knowledge that he has passed an examination and it only remains a matter of time.

Some persons will say this will open the way for "favorite" promotions. This may be true, but at least when a man has ability, he will not be penalized. In any event the person promoted will have to pass the examination before he can be considered, just as is now required under the present system.

In the past "time in the Corps" counted, but never did it count as much as ability. The promotion board can always determine whether a person of outstanding ability should be promoted ahead of a person of average ability, plus long service. In the Marine Corps as well as in civilian life, it's the ability to do a job, not the amount of time you have been doing it. If all persons were allowed to take an examination the promotion board would have a larger field to select from. Under the present system the field is limited. If a time limit is needed, it should not be more than two years. We all realize in the Marine Corps today that it will be a long time between promotions, but if we are allowed to take the promotion examination, we can at least reply to the often asked question "How come you're only a _____?" with "I've taken my examination and passed, now I just have to wait—you realize pro-

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motions are slow in peacetime." If you do fail, you will know you're deficient in some subjects and can concentrate on those subjects. (This is not entirely true, because under the present system you don't know officially in what subjects you failed. Of course, you should be able to remember the subjects you had difficulty with).

My recommendation is let the staff take the examination and then wait for promotion instead of wait to take the examination and then wait to get promoted.

This is written in the hope that some system will be set up, so that when a promotion board meets, they will be able to consider all men in a certain grade. As it is now a person may get good fitness reports with the recommendation that he be promoted, but nothing can be done until the time requirement is met.

HENRY B. LEBOUF, JR.
TSgt, USMC

Ignored? . . .

DEAR SIR:

A Marine can stand being patted on the back or bawled out when he deserves it—but being ignored, never. And when it comes from our own Marine Corps GAZETTE, that really cuts to the quick.

I am referring to the February 1950 issue on page 29, second column, top of the page under the sub-head "Amphibious Assault Training," in which it is stated that "Amphibious assault training will be given approximately 15,000 Army troops at Little Creek, Virginia, by the Navy in preparation for "Operation PORTREX."

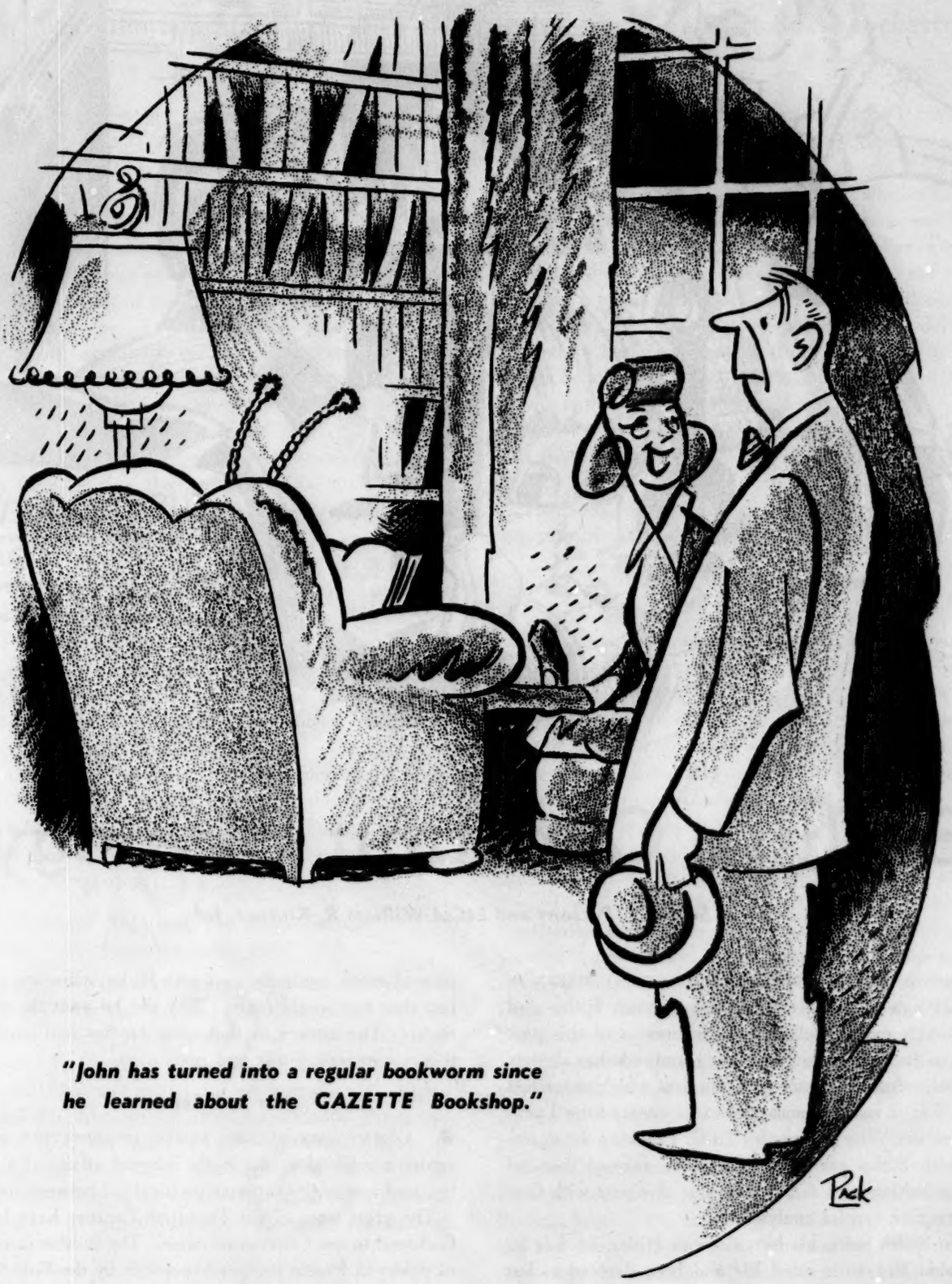
We feel that our Marines here have been slighted by not having been mentioned as being part of the Navy-Marine team which is conducting the amphibious training.

Probably because Troop Training Units of the Atlantic and Pacific Amphibious Training Commands are small organizations, they are not well known to the Marine Corps personnel. In fact, one of our younger officers mentioned that when he was ordered to Troop Training Unit, Atlantic, he had to inquire as to what a Troop Training Unit did. It might be worthwhile to run a little story in the GAZETTE on the subject. If you think it would be of sufficient interest, I believe we can gather enough material here to make up a suitable article.

H. R. PAIGE,
Col, USMC

ED.: The GAZETTE offers its most solicitous apologies to the Marine Detachment, Troop Training Unit, Atlantic. The GAZETTE has instructed its editor of IN BRIEF to not take his title so seriously and where Marines are an integral part of a Navy command he will so state. Since we have no staff writers, your generous offer to tell the Marine Corps about TTU, Lant, is hereby accepted subject to approval by our Editorial Board.





"John has turned into a regular bookworm since he learned about the GAZETTE Bookshop."



Stalin's Chestnut Strategy

By Dr Stefan T. Possony and LtCol William R. Kintner, Inf

HISTORY'S MOST CONVULSIVE WAR WAS USHERED IN 10 years ago by a pact completed between Hitler and Stalin. Although the ultimate consequences of this pact are yet to disclose themselves, their magnitude has already been enormous. The sealing of the pact which unleashed World War II was the most perplexing event of the Twentieth Century. The motives for Hitler's making the agreement with Stalin are obvious, but the reasons that led Stalin to initiate and finally conclude this pact with Germany require careful analysis.

When Stalin made his bargain with Hitler, he was 59 years old. His entire adult life had been devoted to but one aim: the promotion and maintenance of the Communist Revolution.

Stalin, who professed not to want war, to be a champion of peace, made the pact with Hitler, conscious of the fact that war would ensue. Why did he want the war to occur? The answer to that question lies in Communist theory concerning war and revolution.

War and Revolution

COMMUNISTS REGARD ARMED INSURRECTION as the supreme political drama in the internal affairs of a country, and war as the supreme political act between nations.

The great wars of the Twentieth Century have been a God-send to the Communist cause. The Bolshevik seizure of power in Russia was made possible by the First World War. World War II expanded the influence of Russia beyond the dreams of the most rapacious czars. Lenin, the father of the Soviet State, expressed the heart of the

Nazi documents reveal the Russians initiated the talks that resulted in the 1939 non-aggression pact between Hitler and Stalin. War was inevitable and Stalin knew it. What did Stalin hope to gain? Who did he think would pull out Russia's chestnuts?

matter when he asserted, "... war, most likely will be the cause of revolution."[1]

In order for the Communist revolution to succeed, "The ruling class must be in a state of crisis," acknowledged Lenin, "as the result of military defeat."[2]

The Communist revolution is impossible as long as a nation's armed forces remain loyal and intact, and defeat in war is one way of destroying the integrity of armed forces.

Permanent Communist revolutionary strategy thus becomes very clear: Weaken by all possible means the armed forces of all non-Communist states in order to accelerate the birth of revolution.

Recognizing wars between capitalist states advantageous to them, during the period of 1932 to 1938, the Soviets nevertheless espoused the cause of peace with a world-wide machine called the United Front. But the alleged peace policy of the Soviet Union was a subterfuge. Official Communist documents admit that it was merely a more advantageous method of fighting capitalism, "a form which the USSR has consistently employed since the October revolution."

The Communist doctrine on war and revolution and the peace policy of the Soviet Union during the period of the Popular Front, had but one goal: The extension of the Communist revolution. Stalin, chief of the Communist hierarchy, helped to form both the doctrine on war and the policy on peace. With this background, the purposes behind the Soviet negotiations with Nazi Germany may be exposed.

Theories Regarding the Russo-German Non-Aggression Pact

CAPTURED NAZI DOCUMENTS reveal that the Russians initiated the talks that finally resulted in a deal between Stalin and Hitler. When the Soviets finally concluded their pact with Germany in August, 1939, they knew perfectly well that war would follow immediately. Hitler never hid his intention of attacking Poland. From the very first, this pact was conceived and written down in black-and-white, not as a non-aggression pact — as it was labeled — but as an agreement for dividing Eastern Europe between Soviet Russia and Germany. In signing the pact, the Russians knew that they were initiating an immediate German attack on Poland in which, incidentally, they soon participated.

On the other hand, if they had joined with Britain and France in 1939, they would doubtless have prevented the German attack. A Russian-Western Convention would, at least, *have reduced* the chances of war. Yet the Soviets initiated a policy which made war inevitable. Confronted, in August, 1939, with the triple choice of defending Poland, or keeping neutral by doing nothing, or of sacrificing Poland, they sacrificed Poland. Instead of intimidating Hitler, they encouraged him.

Why did the Soviets choose war instead of peace? Why did the Soviets deliberately provoke the Second World War?

There are, on the whole, three conventional explanations for Soviet Russia's diplomatic revolution.

Secretary of State Byrnes' Hypothesis

FIRST IS THE SUGGESTION of former Secretary of States James F. Byrnes that Stalin "must have reasoned that, if the Non-Aggression Pact prevented the Western powers from coming to Poland's aid, general warfare would be averted and the Soviet Union would have more time to develop its military strength. On the other hand, if the Western allies did go to war the balance of strength would be such that Russia would still have time to train and equip its armies."[3]

This hypothesis is rather unlikely. First, Stalin had no illusions that the Non-Aggression Pact would "buy" a limited war as against a general war. The theory of "indivisible peace" was one of the mainstays of Russian foreign policy. Stalin never thought a European war could be kept within bounds. In a speech to the 18th Congress of the Communist Party, on March 10, 1939, Stalin asserted, "There is no doubt that any war, however small, started by the aggressors in a remote corner of the world constitutes a danger to the peaceable countries. All the more serious then is danger arising from the new imperialist war."

Secondly, the purely military interests of Russia would be weakened, not strengthened, by a common German-Russian border, the military strengthening of Germany, and the disappearance of the "cushion" of Poland. Consequently, the intention of strengthening Russia's arma-

[1]Lenin, *Lenin on the Historical Significance of the Third International* (London: Martin Lawrence, 1934), p. 20.

[2]*The Struggle against Imperialist War and the Tasks of the Communists*, (New York: Workers Library Publishers, July 1934), 2d ed., p. 27.

[3]James F. Byrnes, *Speaking Frankly*, (New York and London: 1947), p. 285.

CONCERNING THE AUTHORS—Dr Possony is the author of the widely-read Strategic Air Power: The Pattern of Dynamic Security, *a factual analysis and examination of the capabilities of strategic bombing. He also wrote* Tomorrow's War, *and has contributed many articles to leading service publications. This is Dr Possony's first contribution to the* GAZETTE.

LtCol Kintner, however, is a frequent contributor. Among his offerings in the GAZETTE *to date are:* The Red Army, *March 1947;* Panic, Discipline, and Training, *September 1947;* Psychological Warfare, *January 1948;* Leavenworth and the Marine Corps, *March 1949 and* The Soviet Ideological Offensive, *September 1949. He is currently stationed at Command and Staff School, Fort Leavenworth, Kansas.*

ment could not have been the motive of the pact. If military strengthening against Germany had been Russia's aim, it could have been attained much more effectively through a pact with the West. *If Russia wanted time to grow stronger, she would have delayed, not sped up, the outbreak of war.* On this truth the Byrnes theory crumbles.

Stalin's Remarks at Yalta

THE SECOND HYPOTHESIS was presented by Stalin himself in the course of "an after-dinner conversation at Yalta."

"The Soviet Government would never have entered into the Non-Aggression Pact with Germany," piously argued Stalin, "had it not been for the attempt at Munich to appease Hitler and the failure of Britain and France to consult the Soviet Union on the subject."[4] It is difficult to conceive that a great power would conduct its foreign affairs on the basis of a personal pique. If Stalin had judged that it was in his interest to combine with the West, he would have done so even if snub and appeasement had been worse. Stalin is certainly not so adolescent as his statements at Yalta would imply.

Nor did the diplomatic relations between the USSR and the West, from Munich to the date of the Pact, reflect any Russian chagrin over Munich. Stalin's explanation at the tete-a-tete at Yalta seems to contain a great deal of belated wisdom. It took almost 11 months for Stalin to decide that appeasement of Germany by France and Britain deserved to be punished by a German-Russian pact. The unfortunate Western appeasement policy was officially terminated a month before the Russians began to woo Hitler. But even while it was being followed, the record shows that the Soviets continued, *after* the Munich conference, to cooperate closely with the West: For example, the Franco-Russian pact which was to expire several months after Munich was promptly renewed for *unlimited* duration. And, in March, 1939, Russia agreed to sign, together with France, a joint declaration against *any* aggressor.[5]

But most importantly, Russia agreed in April, 1939, to enter into a military agreement with France and England, and to this effect started negotiations in Moscow, which ended only after the conclusion of the Ribbentrop-Molotov Pact.

This agreement with the West was actually concluded. Its text was initialled by spokesmen for the Russians, French, and British. The agreement was to come into force as soon as the details for the implementing military convention were worked out. The military convention among the three powers was never established because of the Russian pretext that the Poles would not grant their army rights of passage through Poland to the German frontiers. The Russians, of course, did nothing whatsoever to alter the understandable position taken by the Poles on this issue. The world has since come to learn what the Poles must have feared in 1939 concerning the significance of the presence of the Red Army in friendly countries.

Although the over-optimistic Poles were unreasonable during the crucial summer preceding the war, they finally accepted the free passage of Russian forces, unquestionably in time to prevent the Non-Aggression Pact.[6] Yet on August 25, Molotov and Voroshilov misinformed the British and French delegations that "in spite of the efforts of the Russian, French, and English Governments, the obstinate refusal of Poland to accept Russian help has rendered impossible the conclusion of the tripartite assistance pact."[7]

These three examples of intimate diplomatic negotiations between the Soviets and the West after Munich render meaningless Stalin's personal justification for his deal with Hitler.

The Theory of Soviet Fear

THE THIRD PUBLICIZED CONJECTURE explaining the causes of the Russian compact was set forth by Gregoire Gafenco, former Romanian Minister of Foreign Affairs, and in 1940-41 Ambassador at Moscow, who wrote: "Russia was afraid of Germany. . . . Stalin did no longer fight to prevent the war but only to divert it from his own borders."[8]

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[4]*Ibid.*, p. 283.

[5]Georges Bonnet, *Defense de la Paix, de Washington au Quai d'Orsay* (Geneve: 1946), p. 340.

[6]General Gamelin, *Servir*, Vol. II. *Le Prologue du Drame*; Aout 1939 (Paris: 1946), p. 444.

[7]Bonnet, *op. cit.*, p. 340.

[8]Gregoire Gafenco, *Preliminaires de la Guerre a l'Est* (Paris: 1944), p. 52.

This explanation is contradictory: If Russia had feared Germany, she would have made every effort to acquire powerful allies. Moreover, if she feared the Nazis, this also means that she did not trust them; hence what could she gain by the Pact? It seems to be true that Stalin suspected the motives of Britain and France, but he suspected the motives of Hitler no less. The theory of distrust does not explain why he preferred one doubtful partner over the other. Nor does it explain why he should have suddenly become so distrustful of Britain and France in August, 1939, when most of the reasons for the distrust had disappeared.

True, Stalin, by signing the pact, temporarily diverted the war from his frontiers, yet he sacrificed the Polish army, which could have operated as a buffer, and established a common frontier with Germany. If Gafenco's assertion makes sense, a logical policy would have been for Russia to stay away from *any* agreement of alliance or cooperation, but certainly not to lure the feared Nazis on the warpath, nor to give support to their military machine.

If the Russians were afraid of Germany, they must have assumed that Germany would defeat France, for the men in the Kremlin knew that Russia was a far stronger military power than France. Stalin obviously realized that if Germany defeated the West, Germany's military power would become unconquerable, for, after a short breathing spell, Russia would be isolated completely, having no possible ally left, and would then be confronted by an overwhelmingly strong Germany. How could she cope with this danger? While the German attack against Russia would have been postponed by this policy, it would later have come with overwhelming strength.

For all these reasons it seems improbable that Gafenco accurately describes Stalin's thinking. Consequently, a new avenue of thought must be opened in order to explain Stalin's pact with Hitler.

The Real War Plans of the USSR

THE OVER-ALL LOGIC of Stalin's decision depended on a specific assumption as to the military strength of the Western Powers. In effect, if Stalin expected France to be easily crushed by Germany, he would have been compelled to enter into an alliance with the West. Otherwise his own security would have been compromised greatly. By contrast, if he assumed that France and Britain could withstand the German onslaught, he had nothing to risk. The Western Powers would weaken Germany in the process of their own fighting. Germany's capabilities against the Soviet Union would be reduced. In case of a German attack on Russia, the Soviets could count on the military help of the resisting Western Powers to pull the chestnuts out of the fire for Russia.

This chestnut strategy would make sense to Stalin only if he believed Germany to be weaker than France and Britain. Fortunately, there is information available which indicates that Stalin estimated the Western Powers to be stronger than the aggressors. In his speech of March 10, 1939, he stated explicitly: "Combined, the non-aggressive democratic states are unquestionably stronger than the fascist states, both economically and militarily."[9]

On the following day, Communist leader Manuilsky was even more outspoken: "The world reactionaries are deliberately creating the legend of the might of German fascism in order to weaken the people's determination to resist. Fascist Germany is not prepared for a big and serious war — she has not enough raw materials and foodstuffs; her financial position is critical; her coasts are vulnerable to naval blockade; her army is inadequately officered."[10]

In view of Stalin's and Manuilsky's position, these policy-making speeches delivered to the Congress of the Communist Party can be taken to represent the official estimate of the situation as made by the Soviet Government in 1939. On the subject of Western strength, Stalin took special pains to advise Ribbentrop just a week before the pact was signed that France "had an army worthy of consideration."[11]

The tremendous military power unleashed by Germany in 1940 has tended to obscure the fact that at the time the Nazi-Soviet Pact was signed, Germany was not generally regarded as the military colossus she soon proved herself to be. From a review of periodicals published around the

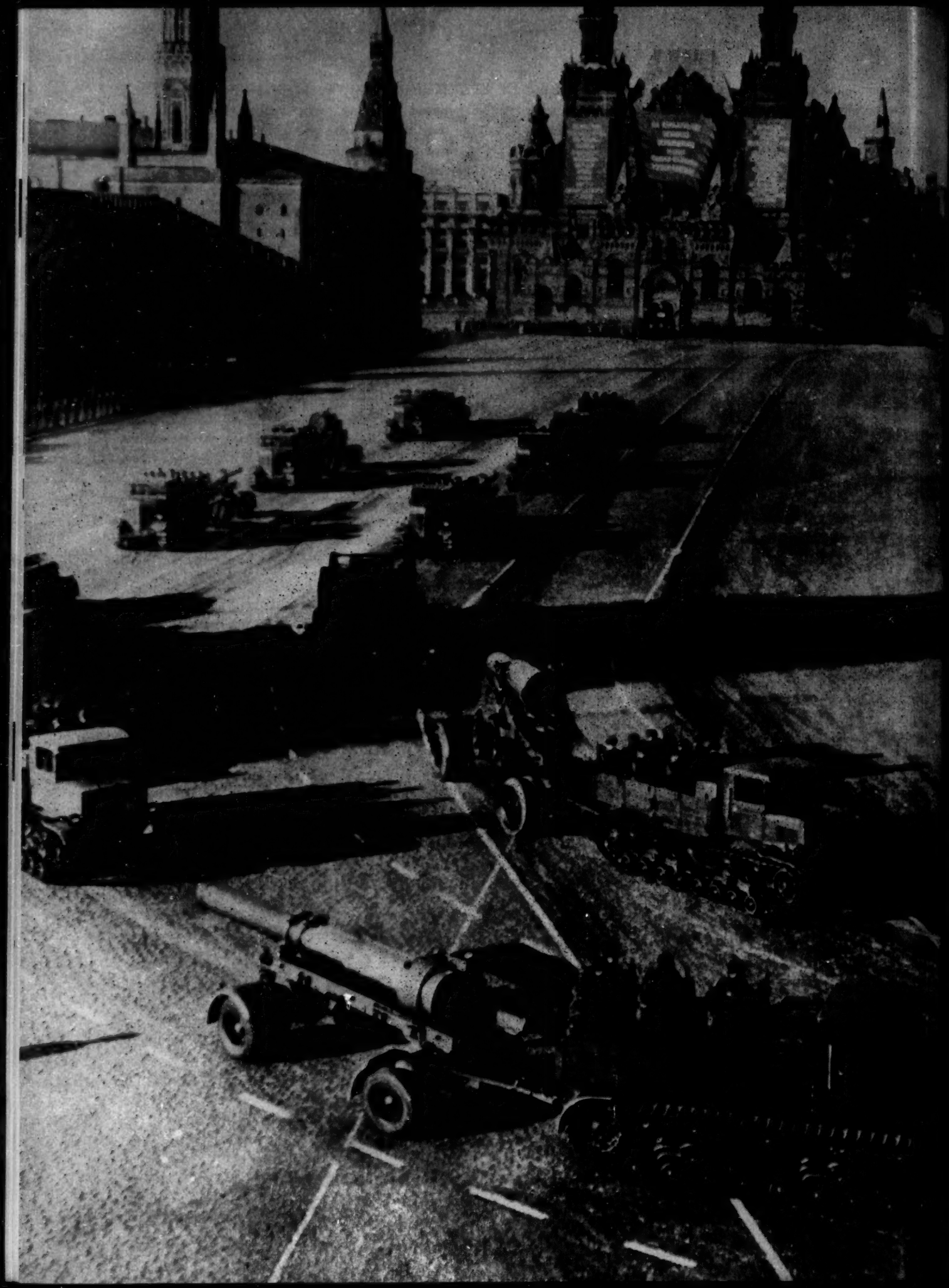
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[9] *The Land of Socialism Today and Tomorrow. Reports and Speeches at the Eighteenth Congress of the Communist Party of The Soviet Union* (Bolshevik), March 10-21, 1939, p. 14.

[10] *Ibid.*, p. 78.

[11] *Nazi-Soviet Relations*, 1939-1941, The Department of State, (Washington: Government Printing Office, 1948), p. 74.





date the pact was completed, it appears that Germany's military strength was everywhere underestimated. Yet on the basis of low German strength estimates the Soviet Union made its diplomatic moves.

But why, despite the fancied weakness of Germany, should the Soviet Government have adopted a policy which led to war instead of preventing war? Why should it not have made an effort to delay war with the possibility in mind that, after completed rearmament of the West and Russia, war would never come? Two quotations may help answer these questions. In July, 1935, the Soviet Ambassador in Paris, V. Potemkin, asked the French Minister of War, "Why should war frighten us? The Russia of the Soviets emerged from the last war, the Europe of the Soviets will emerge from the next."[12]

The second quotation comes from Stalin's speech of March 10, 1939, in which he made the pointed statement that the systematic concessions of the West might be attributed "to the fear that a revolution might break out if the non-aggressive states were to go to war and the war were to assume world-wide proportions."

Returning to the Communist theory of revolution-through-war, it seems evident that Stalin believed in August, 1939, that he had an excellent opportunity to bring about that main prerequisite of world revolution, a world war, without at the same time having to assume the obvious responsibility for this act. There is no reason why Stalin should not have availed himself of an opportunity to put Communist theory into practice.

A Model to Go By

STALIN'S DECISION to follow this course of action may well have been prompted by Lenin's explanation for the unpopular Brest-Litovsk Treaty he saw fit to make with Imperial Germany in 1918. The strategy followed by Lenin in 1918 was duplicated in almost every detail by Stalin in 1939. The substance of this disconcerting strategy was given in a speech that Lenin made to the Secretaries of the Russian Communist Party in 1920.[13] This is the advice that Stalin must have utilized in his 1939 deal with Hitler:

"... We must take advantage of the antagonism and contradictions between two capitalisms," counseled Lenin, "between two systems of capitalist states, inciting one against the other. As long as we have not conquered the whole world, as long as, from the economic and military standpoint, we are weaker than the capitalist world, we must adhere to the rule that we must know how to take advantage of the antagonisms and contradictions existing among the imperialists."

The success of the infant Soviet State, confessed Lenin, "was entirely due to the fact that we took proper advantage of the hostility between German and American imperialism. We made a tremendous concession to German imperialism, and by making a concession to one imperialism we at once safeguarded ourselves against the persecution of both imperialisms. ..."

"It may appear," Lenin continued, "that the result was something like a bloc between the first socialist republic and German imperialism against another imperialism, but we concluded no bloc of any kind; we nowhere overstepped bounds, undermining or defaming the socialist power, but we took advantage of the hostility between the two imperialisms in such a way that in the long run both lost. ..."

"At that time we did not sacrifice any fundamental interests; we sacrificed subsidiary interests and preserved the fundamental interests. ..."

"The Germans hated England with all their heart and soul. They also hated the Bolsheviks. But we tempted them, and they fell into the trap. ..."

"The example of the Brest Peace has taught us a lot. We are at present between two foes. If we are unable to defeat them both, we must know how to dispose our forces in such a way that they fall out among themselves. ..."

Coming to the heart of this strategy, Lenin concluded: "What could have saved us still more would have been a war between the imperialist powers. If we are obliged to tolerate such scoundrels as the capitalist thieves, each of whom is preparing to plunge a knife into us, it is our direct duty to make them turn their knives against each other."

Stalin's Confidence

IT IS SELF-EVIDENT that Stalin would have followed Lenin's Machiavellian advice only on one major condition; namely, that Russia was strong enough to risk a quick Nazi victory which did not seriously exhaust Germany's war-making capabilities. This we know: Stalin denied the German danger, and he firmly believed that Russia was strong enough for any emergency. For example, in his March speech he boasted, "We are not afraid of the threats of aggressors, and are ready to deal two blows for every blow delivered by instigators of war who attempt to violate the Soviet borders."

The Soviet leaders handled their negotiations with Germany convinced that Germany was leading from weakness rather than strength. In fact, so sure were the Russians of Germany's military disadvantages that Molotov confessed to being "taken completely by surprise by the unexpectedly rapid German military successes in Poland. Without this insight into Soviet self-confidence Stalin's actions seem inexplicable. But with the knowledge that Stalin believed he had an immensely stronger military hand than Hitler, the whole play is easier to follow.

[12]Paul Reynaud, *La France a sauve l'Europe* (Paris: 1947), Vol. I, p. 117.

[13]V. I. Lenin, *Selected Works*, (New York: International Publishers, 1940) Vol. VIII, pp. 279-298.

Throughout the discussions and even up to the very day the Germans invaded Russia, the Nazi-Soviet documents reveal one persistent trend: The complete self-confidence of the Russians in all their dealing with Germany. Confident in their strength, the Russian leaders obviously preferred cooperating with Germany.

Choices Open to Stalin

LET US NOW TRY to express the 1939 alternatives of Russian policy. First consider a Russian pact with England and France. Such a pact might possibly lead to an immediate or early war between Germany and Russia. In this event Russia would be compelled offensively to support Poland. Germany, victorious over Poland, might continue her offensive in the direction of the USSR. Russia might become exhausted in this fight; also the West might ultimately support Germany to crush Bolshevism.

Stalin's conclusion: The West would emerge as the decisive power; the Stalin regime would be menaced greatly. This alternative was clearly unacceptable.

As a second consequence of an agreement with France and Britain, it could be argued that a pact with the West would prevent war. In this case, the West, because of its rearmament, would become the dominant influence in Europe.

Stalin's conclusion: Either Germany would combine with the West and ultimately oppose the Soviet Union with Western support, or the status quo would be maintained. If this course were adopted, Russia would run a risk without any territorial and political gain. If, moreover, it was the basic Soviet policy to upset the status quo, whether to strengthen the relative power of Russia or to further world revolution, this plan would also be unacceptable.

The opposing course of action would be a Soviet nonaggression pact with Germany. This step would be wise provided Germany was not strong enough to defeat the West. Even in the event of an unexpected German victory over France and Britain, Germany would not have been a dangerous threat to Russia since the war with the West would have been too exhausting. Admittedly, the signing of the pact made immediate war inevitable, Germany already having announced her intentions, and the Western Powers being unable to default on their policy, treaties of alliance, and declarations of guarantee.

On the credit side of the Soviet ledger, the practical results of such a war would be fourfold: Germany would be militarily and politically weakened; the Western Powers would exhaust themselves in the struggle; by contrast the relative and absolute strength of the Soviet Union would grow immensely; last but not least, Communism would spread into the territories to be annexed by Russia and possibly also into the territories of the belligerent nations, especially Germany.

Stalin regarded Western Europe as an economic and cultural unit. If the two strongest groups in that unit fought, it made little difference which side won. If the war were of any duration at all, the USSR would become the ultimate winner and in the end would dominate Europe. In 1939 Stalin foresaw that England and France were potentially stronger than Germany. By giving Germany economic aid, which he did under the terms of the Nazi pact, Stalin could prop up Germany long enough to fight the Western Power to a standstill. Then, when both sides were exhausted, the Soviet Union could erupt into the power vacuum created by the mutual disintegration of Germany on the one hand, and Great Britain and France on the other.

This line of reasoning is the only one which fully and adequately explains the Russian conduct of August, 1939. Once the estimate of the military situation as presented by Stalin is accepted as genuine, the rest of the argument follows with compelling logic.

The first official Soviet explanation of the pact seems to substantiate the theory that it was not entered into for any of the three publicized explanations, but rather because it had long-range, revolutionary objectives. As Molotov hinted immediately after the Pact and before the Supreme Soviet on August 31, 1939:

"This pact ... must open to us new possibilities for increasing our strength for further consolidation of our positions, for a further growth of the influences of the Soviet Union on international developments."[14]

Stalin's Miscalculations

NO MATTER what imputation is given to Stalin's decision to make the pact with Hitler, however, it is quite obvious that Stalin miscalculated the strength of the German war machine.

After the fall of France, Stalin revealed some misapprehension concerning Germany's strength by increasing the working day and the working week in the Soviet defense industries. As the German tide continued to flow into 1941, Stalin's 1939 military estimate proved itself to be in error. German victory seemed assured, and the chances that the victorious Germany would be exhausted and thus open to revolution appeared remote indeed. Under these new circumstances, Stalin staked everything on maintaining the letter of the 1939 pact. Stalin at one point tried to enter the Axis alliance as an active partner, hoping to share in the carving up of the British Empire. His conditions were unacceptable to the Germans, since they would have strengthened the grasping Soviets to a tremendous degree.

In the spring of 1941, shortly before the German onslaught, Stalin became the champion appeaser. He ignored the warnings of Britain and America that Ger-

[14]Cited in *Stalin Kampf*, a compilation of Soviet speeches, edited by R. R. Werner, (London: Jarrolds, 1940), p. 286.



". . . Regardless of the results, the most lucid explanation for Stalin's deal with Hitler is that he entered this marriage of convenience for the sole purpose of promoting the Communist world revolution . . ."

many planned to attack him. During that spring, when Matsouka visited Moscow on his way back from conversations in Berlin, both Stalin and Molotov took the unprecedented step of seeing the Japanese envoy to the Moscow railroad station. At the station, Stalin publicly asked for von Schulenburg, the German Ambassador to Russia, and finding him, threw his arms around the shoulders and exclaimed: "We must remain friends and you must now do everything to that end."

Hitler, of course, had other plans. When the German attack came, the Soviet Propaganda Office had to make an abrupt about face. The question it had to answer was: Why had the Soviets made the pact with the deceitful, crafty Fuhrer? To gain time, of course. This remains the official explanation of the Soviet Government, Soviet apologists and Communists everywhere. As William Z. Foster, Chief of the American Communist Party, testified, "the Soviet-German pact, by giving the Soviet Government an opportunity to strengthen its forces, was one of the most decisive contributing factors to the winning of the war." Actually, the theory that Stalin was merely playing for time was invented much later to cover up the Kremlin's error, for as has been shown the Soviet Union did not use the time interval to arm itself effectively. On this matter, the testimony of the first year of the war on the Eastern Front is irrefutable.

The Harvest

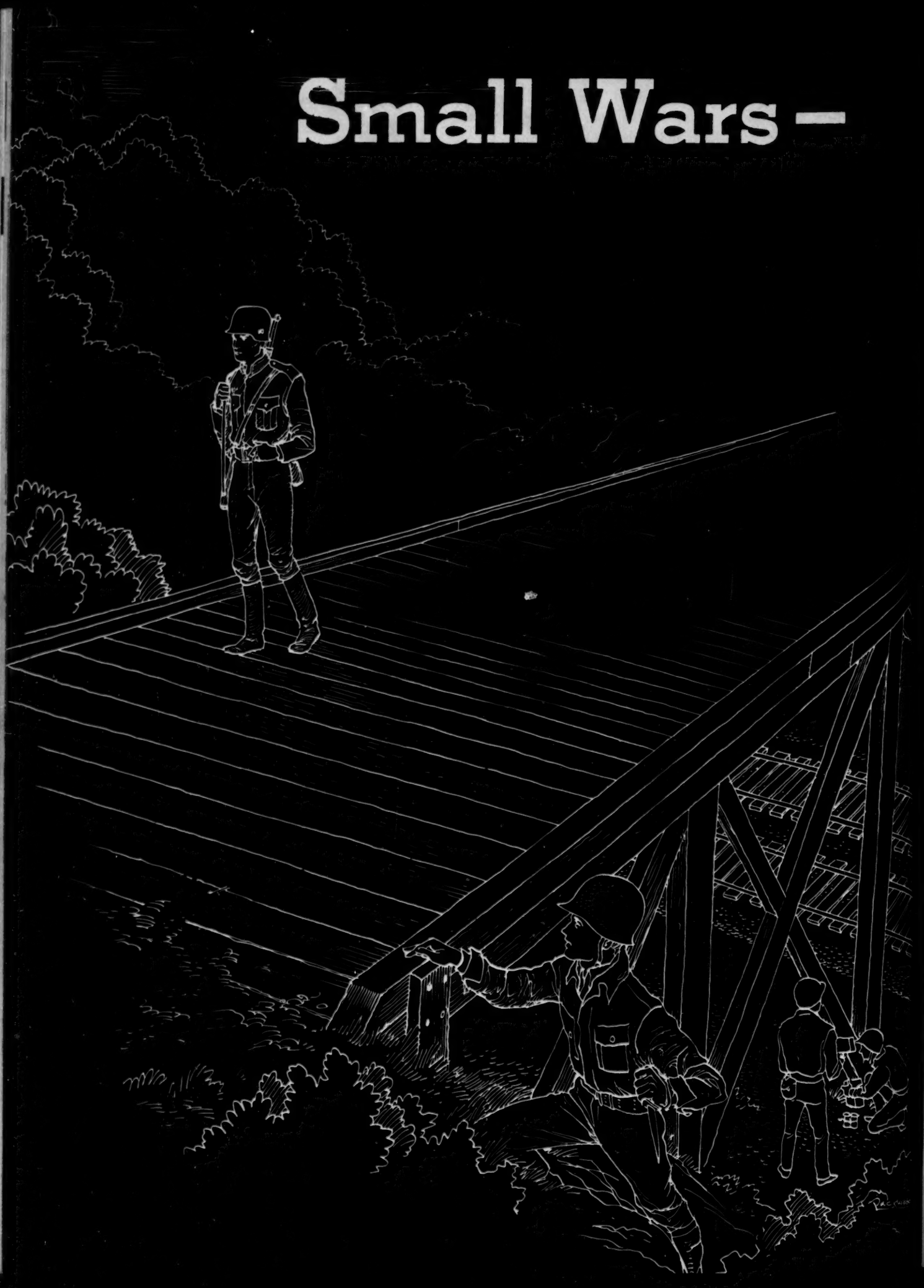
IF STALIN unleashed the war to promote revolution it is only necessary to add that practically all of the anticipated results were attained. The only major error was that the Soviet Union was all but smashed by Germany, and that the gamble proved to have been extremely risky and costly. Russia suffered enormous damage. Yet her gains in relative and absolute strength were even more enormous.

Whether he deserved them or not, Stalin gained from World War II many of the fruits he desired in permitting the war to come about. Yet regardless of the results the most lucid explanation for Stalin's deal with Hitler is that he entered this marriage of convenience for the sole purpose of promoting the Communist world revolution

The implications of this logical interpretation of the Nazi-Soviet Pact go far to explain the mortal crisis confronting the West.

USMC

Small Wars –



—Vanishing Art?

By LtCol Robert D. Heinl, Jr.

THE MARINE CORPS OF 1950, IF YOU STOP TO THINK about it, probably includes more officers who know how a division operates in battle, than those who possess the know-how and experience required to exercise command in an independent small-unit operation.

Offhand, that statement sounds haywire. Any student in the Junior Course at Quantico will tell you he spends time aplenty in problems and exercises involving tactics for the company and battalion. But that, while entirely true, isn't what I mean.

Call it raider operations, commando work, small wars, partisan warfare, or whatever. "Independent, small-unit operations" is perhaps a good way of lumping them all without hanging any undesirable past associations or preconceptions onto what will always, whether we like it or not, be a role which Marines will be expected to perform, and perform peculiarly well.

Considering the fact that such operations constituted during our first 16 decades a fast-moving item in the Marine's combat stock-in-trade, it seems all the more strange that the specialty has, within little more than a decade, waned almost to the vanishing point.

Of course, as there are good reasons for almost any phenomenon, so, on examination, the following reasons can be adduced for this:

(1) World War II's campaigning, for Marines, at any rate, consisted mostly of a series of very hard-fought, complex amphibious assaults involving Marine divisions or amphibious corps. As a result, the great preponderance of our existing lode of combat experience centers today about divisional or higher-level battles.

(2) In the training hurly-burly of the past decade, peace and war, the study and indeed the teaching of small wars has assumed less and less importance, while, at the same time, those who possess the qualifying experience to teach from real life have progressed nearer and nearer to the old soldiers' home.

(3) The entire "raider" concept, especially in its *Gung-Ho* aspects during the past war, came in for a deservedly bad professional name as being synonymous with indiscipline, aggressive nonconformity, and combat snafu.

Before we go any further, and with particular reference to point (3) just stated, it might be well to emphasize again that, *whether we like it or not*, high-quality performance of independent small-unit operations is a long-standing, traditional, a wholly bona-fide job for Marines — and it is one which, if ineptly performed, can get us into a lot of hot water very quickly.

MOREOVER, it is entirely possible, especially if the next war were to settle down into Eurasian stalemate, that an unparalleled demand would arise for units trained to carry out partisan-type operations in the occupied areas marginal to Eurasia. This demand would naturally be heightened if, as a consequence of any number of unhappy eventualities, we found ourselves without continental footholds on the Eurasian mainland, and few, if any advanced bases from which to start in again.

In such a Eurasian war, the battlegrounds, one regrets to reflect, would in the main lie in the margins of the Eurasian heartland, in the territories of occupied nations friendly to the United States, with whom we possess common bonds of blood and tradition. Military operations in those areas (where hostility toward the conquerors who had overrun them would burn high) would create occasion for hundreds of dramatically important independent small-unit or even individual operations, ranging from raids and reconnaissance missions to the support and organization of entire dissident armies

Will World War II's hard-fought complex amphibious operations relegate small wars training to a few hours? During the first 16 decades of existence, this type warfare was a Marine's stock-in-trade. In the last 10 years this speciality has almost vanished



within the peripheral occupied lands. Ejection of U. S. forces from the continent of Eurasia — as might conceivably happen soon after the outbreak of war — would serve only to increase the need for highly-trained partisan units able to keep resistance alive and to prepare for the ultimate seaborne/airborne attempt at recapture.

Assuming that such a distressing state of affairs had come about, what distinctive capabilities and characteristics would we find it useful for a Marine unit, organized and trained for independent operations, to possess?

First of all, even before we begin, such a unit should be reinforced infantry of the best quality, capable of carrying off any infantry/combined arms mission which might be expected of a normally organized unit of corresponding strength. This basic requirement would take in a multitude of combat skills, ranging from weapons qualifications to scouting and patrolling, and the ability to make intelligent, efficient use of every possible variety of supporting firepower.

Second, much emphasis should be placed on all types of reconnaissance techniques, not only amphibious but airborne. Every member of the unit should be equally at home paddling onto a beach from a submarine or dropping by helicopter or parachute into enemy strongholds.

Third, readiness for movement, and complete adaptability to every possible means of movement — both well-developed Marine Corps characteristics, fortunately — should be hallmarks of independent operations troops. The entire unit should be air-transportable and thoroughly versed in airborne techniques.

Fourth — and hand-in-hand with special capabilities in the fields of readiness and movement — the unit's logistic "tail" should be streamlined and tapered to a minimum. The techniques of air supply, of foraging, of employment of nonstandard, Allied or enemy material, all these should be stressed.

Fifth, the techniques of demolition and sabotage should become second nature to Marine independent operations men.

Sixth, special training should be laid on the control and fullest exploitation of non-typical supporting firepower. What do we mean by that mouthful, "non-typical supporting firepower"? Well, as an example, neither the submarine nor the destroyer-transport (APD) is considered to be a normal type of fire support ship, and most Fleet Marine Force shore fire control parties would feel both frustrated and uneasy if forced to rely on either type as a source of naval gunfire support. Yet it might well be — would probably be, in fact — that the only artillery-sized fire support available during a seaborne independent operation would have to come from a submarine or an APD. Close air support provides another example. Conceivably, air might be the *only* external supporting agency which could help out Marine forces on small independent operations. Such air support, though close, would have to be conducted minus most of the rather elaborate ritual of prior negotiation, air coordinators, Plan Victor, etc., and might be rather trying, if only in its novelty, both to tactical air control personnel on the ground and to the pilots first engaged in any such work.

ANYONE who had the pleasure of reading LtCol McGlashan's *The Bottom of the Barrel* will realize that today's Marine Corps possesses less than no spare manpower which might be formed for experiment's sake into even a single independent operations battalion. But there are a few things which could be done to restore somewhat



the Marine Corps' whilom and much admired monopoly in the field of independent small unit work.

Systematic research into the entire field is perhaps most important, if only to find out just what the Marine can do, or is likely to be called upon to do along these lines. Such research should include not only a careful study of modern partisan or commando actions, but should by all means go to living sources. No pains should be spared to interrogate every Marine with first-hand knowledge or experience in independent operations. From research, naturally, we could evolve more precise concepts, both as to doctrine and organization.

Teaching is a logical sequel to research and the shaping of doctrine. In our schools and in our troop training programs, it would be possible to work in subject-matter of value to potential future practitioners of independent operations. Since, in this field at any rate, the pre-eminent qualifications of our respected sister corps, the Royal Marines, are well established, might we not set up a Royal Marine billet at Marine Corps Schools with the job of teaching independent operations?

And while we are thinking about the teaching side of this matter, it might be well for Marines to reflect on the fact that nowhere in the U. S. Armed Services is more than cursory,[1] part-time attention—if any at all—given to partisan operations.

Field Service Regulations devote only eight paragraphs to the whole specialty (just about as few as were devoted to amphibious operations in prewar editions of the same Army publication). Here, perhaps, is an opportunity for the Marine Corps to pioneer still another military specialty which may prove invaluable in future war.

MANY A READER who has gotten this far will already be wringing his hands and crying out "heresy!" if nothing less printable. What could be worse for the





Marine Corps, he will demand, than that we seem to emulate Alice in Wonderland when she took the pellet which shrunk her down to keyhole size?

For these anxious or indignant individuals, it might be well to suggest (1) that the Marine Corps, by its catholic tradition and nature, can never afford to turn down a combat job; (2) that the next war, if any, may find a very large volume of such jobs a-begging; (3) that quality and performance are Marine hallmarks; and (4) that capabilities for independent operations do not constitute a one-way street — e.g., that, by their infinite variety of nature, setting, and status (whether with Navy, Air Force, or Allies), independent operations can give the Marine Corps considerable functional elbow-room beyond the amphibious field.

After all, no Marine goes around hanging his head when someone remembers that it was U. S. Marines who helped cut out the ill-fated *Philadelphia;* pushed through the Coco River patrol; captured Charlemagne Péralte; carried President Polk's despatches across hostile Mexico from Washington to California; hoodwinked the Japanese on Choiseul; or led an Arab camel corps through Libya to storm the Fortress of Derna.

To achieve success in such renowned independent operations as these, there were required the ingredients of readiness, valor, discipline, and quality. When need again arises for men to perform such duties, it will seem logical to Americans that Marines be given the first opportunity. We should do well to be fully prepared, not for independent operations as our sole — and certainly not as our primary — mission, but for still another opportunity to demonstrate again past qualities which contributed to the Marine Corps of our times. USMC

[1]Marine Corps Schools are now breaking the ice with 17 hours of partisan warfare in the Senior and Junior courses.



Painting by Charles Cundall

Photos by British Information Services

Ab Initio

Part I

By Col A. G. Ferguson-Warren, Royal Marines

DRAKE, IN A LETTER TO SIR FRANCIS WALSINGHAM, in 1587, after sailing into Cadiz harbor and there destroying the assembling ships of the Spanish Armada, wrote:

"There must be a beginning of any great matter, but the continuing unto the end, until it be thoroughly finished, yields the true glory."

There is no glory in this story. But I like to think that, in some small measure, it may be considered a part of the beginning of a great matter — the return to the enemy coast in June 1944. As such it may be of interest.

The story, too, must have a beginning. We'll open it on the back terrace of the "Chauffeur's Arms"—The Royal Automobile Club, Pall Mall, London — at about 7 PM on a quiet and beautiful evening in early June 1940. Here I was sitting with two other officers, one a hard-bitten colonel known as Joe, the other a major, like myself. It was the colonel's habit after a long day at the War Office, to lead his small team to the RAC and there relax and await the possible inspiration that whiskey might bring. And inspiration was very necessary on this particular evening, for we were living in stirring days. The struggle had been joined around Dunkirk, and in all of our minds was the possible fate of our Army. That very morning I had met a white-faced brigadier in the War Office corridors and, in answer to my question, "How are things going?" he had uttered the one word, "Defeat!"

I should explain that Joe was in charge of one of the original "Cloak and Dagger" branches in the War Office.

The Royal Marine Major's task was a simple one. He was to enter France below Boulogne, contact small bodies of troops that had fought their way through the Germans and inform them where and how they would be rescued. Difficulties and adventure awaited him

Such an organization, being suspect by the normal service branches, demanded the thinking up of bright ideas and considerable drive to get them implemented. Joe had the necessary qualities and so had the other major. I had recently joined the branch, and for various reasons could make nothing of it; which was probably why, after two whiskies, I ventured to speak my mind. I said, in effect, that I would rather go to sea and sit in a turret than continue to shift piles of paper from one side of my desk to the other and never see any result of my efforts. When a marine confesses to an urge to go to sea he is usually the subject of a cartoon, but on this occasion I could see no other method of escape.

Joe had been sitting quietly for some time watching the sunset. He turned to me and slowly nodded his head. "I know. Hold your horse for a bit. I think I've got a job for you. Come and see me at 11 o'clock tomorrow."

Next morning Joe put over his ideas to me. He said that the British Army was hemmed in at Dunkirk; that small bodies of troops would probably fight their way through the encircling German forces and make for open country; that they would undoubtedly make for the coast and expect the Navy to get them off; that it was my job to think over the problem and put up an answer.

I returned to my office, got out a map of France and tried to put myself into the mind of the leader of one of these bodies of troops the colonel had spoken about. There was Dunkirk. There, some way to the Southeast was a large green patch — the Bois de Boulogne. There, running south of Boulogne, was a 20-mile stretch of excellent beach reaching to Le Touquet, with Paris Plage running on south for many more miles. Dunkirk, the woods, the beaches — that would be the obvious sequence and route. It remained to bring in the Navy, on a dark night, and ensure that men and boats met at the right place and time. Looking at the map it seemed that the right place was where a small stream entered the sea, about 12 miles south of Boulogne and two miles south of the village of Hardelot. The right time would be about midnight. Simple!

But was it? How could we let the troops know the date, time, and place they would be taken off? How could we bring in the boats to meet them? Obviously someone had to get into France with a prearranged plan, find the troops, bring them to the rendezvous and signal to the boats to come in. We wanted suitable personnel, suitable communications, suitable boats, some intelligence, plenty of luck, and a lot of other things.

I went to Joe and told him the broad plan. He told me to get on with it.

We hadn't time to advertise our wants throughout the services, nor was it advisable to do so. Someone suggested the French, who had recently set up a headquarters in Whitehall, and I decided to go and see them. I found a few white-faced and weary staff officers sitting in improvised offices. In reply to my request for volunteers to return to France, they shook their heads with sad smiles. They were trying to get their troops out of France, they said, not into France.

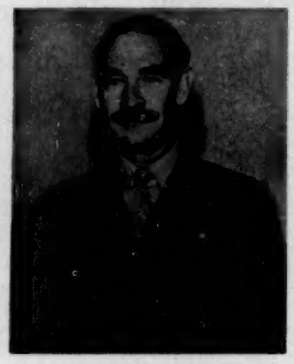
Here was a problem. It had to be solved, however, and I returned to the office for fresh inspiration.

Now it happened that we had a close liaison with a certain Cadet Training Unit at Aldershot, commanded by a Guards colonel. He was later to earn the title of the "Old School Tie Colonel," for a few weeks later he was indiscreet enough to express the view that no man who had not been to one of the better English public schools was any use as a British officer. Why he did this, and what happened to him is, however, another story. I telephoned him, and asked to have all French-speaking cadets paraded for me at 7 AM next morning. This he promised to do. I devoted the rest of the day to starting the ball rolling on matters of intelligence, communications, the Naval side of the problem, money, and other details.

Next morning I interviewed about 50 cadets. I told them that volunteers were wanted for a job. The requirements were that they had to speak French like natives, and preferably have some knowledge of France. They had to be able to sail a boat, pull an oar, swim, and be "keen for a party." It was pretty clear what the broad project was. They were all sworn to secrecy and given 10 minutes to think the matter over. At the end of that time eight young fellows came up, and one young man of about 28 who looked rather an oddity. After probing into their background and qualifications and a brief talk with the adjutant I decided they were all possible starters. They were ordered to report in London that evening. The colonel wanted to join the party, but I thought he'd get us into too much trouble.

We had the men!

Back in the War Office later that morning there were further difficulties. Apparently there were no suitable wireless sets available. We wanted something that could be easily carried and concealed by one man; but in this we were ahead of our time. One department, however, knew of something that might do, but on contacting the



Col Warren was born in 1900 in Hampshire, England and in 1919 was commissioned in the Royal Marines. He served in the Fleet Air Arm from 1925 to 1929; was a student at the Staff College at Camberly in 1934-35. A week before the Munich crisis in 1938 he was attached to the War Office (Home Defence), leaving that office shortly after the outbreak of war. He served in Norway in 1940 until his force was evacuated. In July of that year he joined the Combined Operations Staff and spent most of the year "playing around in the Channel" and on intelligence work for early commando raids. He went to Singapore in 1941 to coordinate all para-military activities in Far East; was captured by Japanese at Padang, Sumatra, March 17, 1942. He is now Chief of Combined Operations Representative, Wash., D. C.

makers we were told that we couldn't go and see it, nor could they send one in. They, and everything about them, were "Top Secret." "Tell them we'll buy six," said Joe. We did. Six sets arrived in the office that evening. They were neat toys that buttoned round the waist, but were so undeveloped that they required enormous Post Office tapping keys for operation in Morse. They were transmitters only, with a range of six to eight miles. No signals expert in the War Office had ever seen anything like them or knew how they worked. They could only suggest a visit to some professors at an experimental station at Woolwich, 10 miles away. We made an appointment for that evening.

The rest of the day we spent on rather fruitless visits to the various Intelligence Departments. Beyond getting some commercial holiday pamphlets showing the beautiful hotels, bars, and golf courses in and around Hardelot we could find out nothing about the beaches and hinterland. Details of German dispositions we couldn't expect. To ask for air photos was out of the question. Someone in the office said that he knew a retired officer down in Surrey who had spent a holiday at Hardelot the previous year. I decided to visit him early next day.

Next I had a brief talk with the Operations Branch at the Admiralty. They were up to their eyes with more important affairs, but had already settled the question of boats, navigational details and similar matters. A captain, R.N., had been put in charge and the operation had been christened Operation X. We were getting important! We cocked up a simple plan for the whole operation and I left, with highly improved morale at their interest and realistic approach to the job.

The wireless professors at Woolwich were much intrigued with my set and after some tinkering found out how it worked. From a bush 400 yards away I laboriously tapped out a message with the Post Office key and they reported perfect reception. We had a brief celebration before returning to the War Office where I slept the night on the floor of the office with the precious set on a chair near my head.

We had our communications!

I was disturbed before midnight by some intelligence officers. Would I care to volunteer to become a prisoner, asked one. I didn't see much future in that and said so. After this rather poor opening gambit, they became really helpful. Cunning little compasses, magnets and maps were produced and, most important, a really good small knife. One, an RAF officer, had been a famous escapist in World War I and knew his business. We didn't eventually take the gadgets, for various reasons, but the knife was our salvation.

Before breakfast next morning I drew up outside a pleasant house in Surrey. Colonel K was up and greeted me in his dressing gown. We gathered round the family snapshot album while his wife brought coffee.

"See here," he said, "that's a good picture of the beach." I leant over the table but his wife interrupted. "No, John," she said quietly. "That's Devonshire the year before."

But the Colonel was on his mettle. "I know. I'll get M to come along. He knows the place well." So saying he went to the telephone and I heard him shouting to his friend, "Yes, it's urgent, really urgent."

A few minutes later there was the crunch of wheels on the gravel outside and a good old golfing type entered, looking rather ridiculous with a gaudy spotted dressing gown over his pyjamas. He had the air of a conspirator and the fate of England was clearly in his hands. His contribution to the debate was charmingly irrelevant. It was Mrs K who really gave me what I wanted.

I left the house with some pictures of happy children playing on the beach, pictures of the beach at high and low tide, pictures of the dunes and woods behind, all taken from the family album.

We had the Intelligence!

I hurried back to London where we had a final conference and tidied up a few outstanding matters.

Joe saw us off from the War Office side door. We were headed for Dover. On the way the Naval Captain pointed out the house down in Kent where he was born. We saw the wires that had been erected over the main roads, the old cars and farm machinery strewn round the fields to stop enemy air landings. It was a lovely Sunday morning.

We found Dover in a state of organized confusion. Troops evacuated from France were being lorried to the



After Dunkirk—British sailor assists wounded Tommy. Question was, had all British troops been evacuated?

railway and to staging camps. A destroyer's crew, in grimy overalls and with unshaved faces, were standing outside of headquarters on the sea front. A passing bus load of German prisoners heartened us. In the Lord Warden hotel a mixed mob of officers was milling around, dumping gear and trying to get accommodation. At a table in the small smoking room sat a young destroyer skipper with his number one and a young snotty.* A torch was on the table and a bag of apples. A hurricane lamp was at his feet. He was telling the snotty he was going to be left behind that night. "But, sir," the lad protested, "You'll want somebody to shoot the stray dogs. I could do that." The skipper was obviously tired. "All right, blast you, you can come. We'll meet here at six o'clock." Oh, thank you, sir." The lump of apprehension in my own belly vanished. The boy had given us a great lead. He looked about 15.

A quick visit was made to the operations room of Dover Command, deep down in the cliffs. We were going to leave that night from Rye, 30 miles along the coast, in a fishing boat manned by a local volunteer fisherman crew. We met a lieutenant-commander and a young sub-lieutenant who were to run the operation. We met Goldie, a Dungeness pilot, who was to see we got to the right spot on the French coast.

We arrived at Rye, one of the old Cinque ports, and went to the famous old Mermaid Inn where we ordered a big dinner. We were an assorted bunch; a Naval captain, a major of Marines, a lieutenant-commander, a sub-lieutenant, two Army cadets — I had taken the odd looking one — and one female driver. The cadets and I had purposely not shaved for some days and didn't look our best. The lugubrious old waiter eyed us with considerable distrust as he served drinks.

We had forgotten something — the rum. It was no use going to sea without a rum issue! I got on to the nearest military unit, a battalion of the Sussex Regiment, and spoke to the commanding officer. I asked him to send a jar of rum to me at the Inn immediately. He could confirm my entitlement by phoning my branch in the War Office. He played up well. During dinner we heard a lorry draw up on the cobbles outside and a huge captain entered. He was the battalion quartermaster, and one of the old type. I went outside with him and he said, "There's your rum, sir. I know where you're going, sir. Good luck, sir." Again my belly felt better.

The fishing boat was high and dry on the mud, and we had to wait till midnight till the tide floated her off. Her crew of four were old hands and too imperturable to feel any urgency in our getaway. We waved goodbye to the captain and his driver and cast off. We thumped our way slowly down river, the boat was diesel driven, and were glad when the old tub started to lift in the Channel swell.

After talking on deck for sometime I went below and lay uncomfortably on a coil of evil-smelling rope. At

*Midshipman, R.N.



long last we were started. On what? In the rush of the last few days there had been little time to appreciate all the possibilities of the matter we were committed to. I decided it was too late to worry now, and turned over and listened to the slow thumps of the diesels. God! We were noisy! We were crawling along, too, making about three knots, I reckoned. Fifty miles at three knots meant that we'd reach France in time for tea next day — an absurd hour to arrive. There must be something wrong somewhere.

I went on deck and spoke to the sailors. It appeared that the boat had three diesels. One wouldn't start, and one had just blown a gasket. They agreed we were doing about three knots on the remaining engine. "Then the thing's just bloody silly?" They agreed. Goldie complained he had nowhere to put his compass and wouldn't even guarantee to hit France, much less the spot we wanted to make. We decided to turn back, and felt very angry at this ridiculous anticlimax.

Hardly had we put the helm over and started to serve out coffee, laced with rum when, on glancing astern, we saw two large bow waves in the darkness, from what were obviously two CMBs, about 200 yards away. As we looked they turned, immediately astern of us, and went out to sea. Clearly they were two of our CMBs going up to Dunkirk. Good luck to them!

Somehow the fishermen got at the rum during the run back to port. They became quite incoherent but got their boat back up the narrow river somehow. We helped them ashore, knocked up a garage and slept on the floor till a car from Dover could pick us up.

What a party! We all felt very foolish. After all the rushing about of the last few days — this!

Back in the operations room at Dover the sailors went off to get another boat. We reported the previous night's doings and the two CMB's we had seen. The Commander looked at us and shook his head. "I think you've been lucky," he said. "We had no boats anywhere near that area last night." German E boats! Well, thank God the luck was on our side, anyway. They must have been much more scared than we were.

By early afternoon the sailors arrived back in Dover harbor wtih a peach of a boat. She was a 20-knot, 35-foot speed boat from Ramsgate, called the *Halcyon*, with a civilian crew who had been several times over to Dunkirk. Goldie was jubilant as his navigational problem was greatly simplified. We got our gear on board, including a few cases of hand grenades, "to lob into any ruddy E boat," the sailors said. My military training revolted against this use of weapon, but the whole business was queer anyway, and the sailors would doubtless relish the opportunity of emulating Nelson and putting their ship alongside the enemy. We dropped down Chan-

← **Human chain reached from shore to ship at Dunkirk.**

nel at dusk in company with a French fishing lugger whose blue-jerseyed crew hung over the side and watched us with interest. As we neared the *Varne* lightship, lying about 10 miles off Dungeness, we stopped engines and waited for 11 o'clock. We sat and watched the lightship winking at us with a red eye in the darkness. The sea was fairly smooth and everything promised well for the night's adventure.

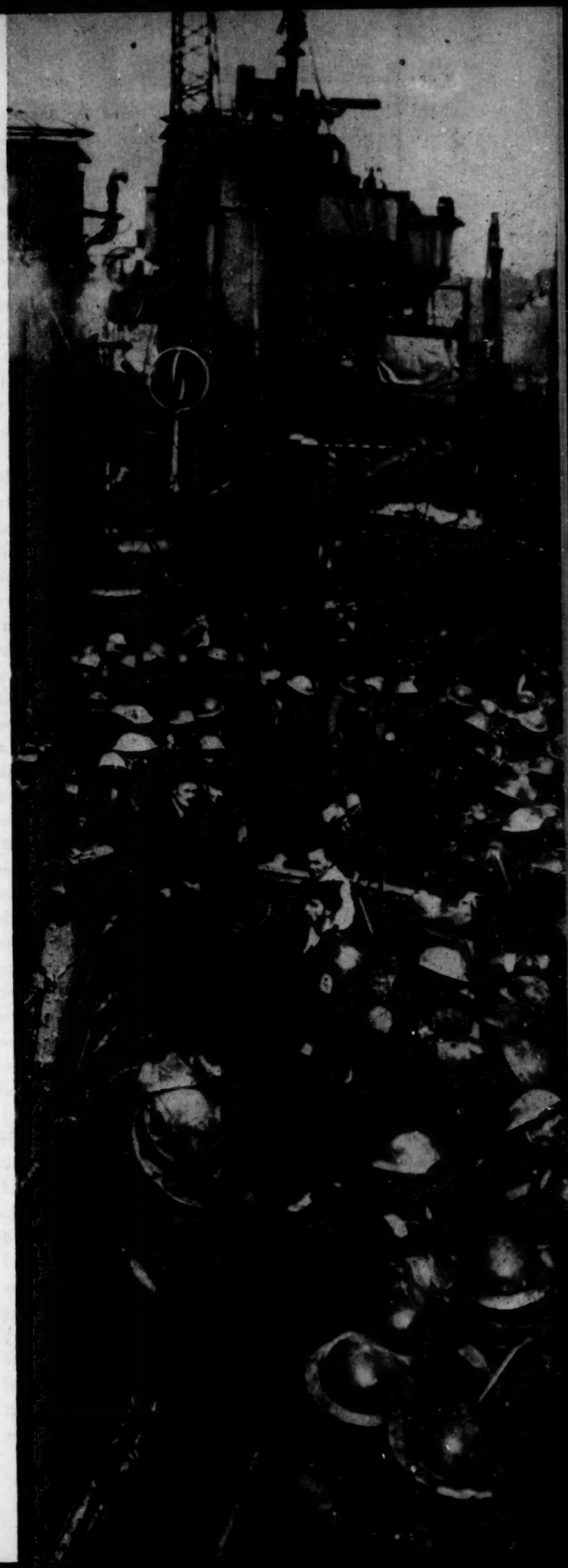
I should explain here the broad plan for the operation. We hoped to hit the enemy coast at about one AM. The two cadets and myself would be put ashore near the stream south of Hardelot and, after three nights, would be taken off with any troops we had been able to collect. A minesweeper and a tow of boats were provided for the troops. Three more cadets would then be put in. They in turn would be taken off after three nights, and so on. We hoped to maintain a continual stream of agents going into France. If we were not taken off on the third night we were to expect the *Halcyon* to come in on the two succeeding nights. If nothing happened on any of the three nights we were to find our own salvation.

Our plan ashore was simple. The cadets were to work together and, by contacting the French in villages some miles inland, try to discover the whereabouts of any British troops. I couldn't speak French, other than the schoolboy variety, so I was to remain and make a secure headquarters near the point of landing, with the wireless set. I was the only one who could work it and send Morse. We went in dressed in uniform in case we bumped trouble early on. In this case we hoped to get away with it by saying we had escaped from Boulogne and had just come ashore from a boat. We hoped to get civilian clothes from the French when necessary. We had no food as we would, of course, "live on the country." I had a small bottle of brandy and a bottle of malted tablets presented to me in the operations room at Dover. One of the cadets had a small bottle of grand-marnier liqueur — his particular vice, and a sustaining food, he said. The other had a jar of honey and some cherry brandy. Between us we carried a haversack of torches for signalling the boats in to the beach when necessary.

There were other details in the plan which needn't be told. The plan had the merit of simplicity. It certainly had little else.

At 11 o'clock we got the motors going and, taking a bearing from the lightship, started our dead reckoning run to the French coast, 35 miles or so distant.

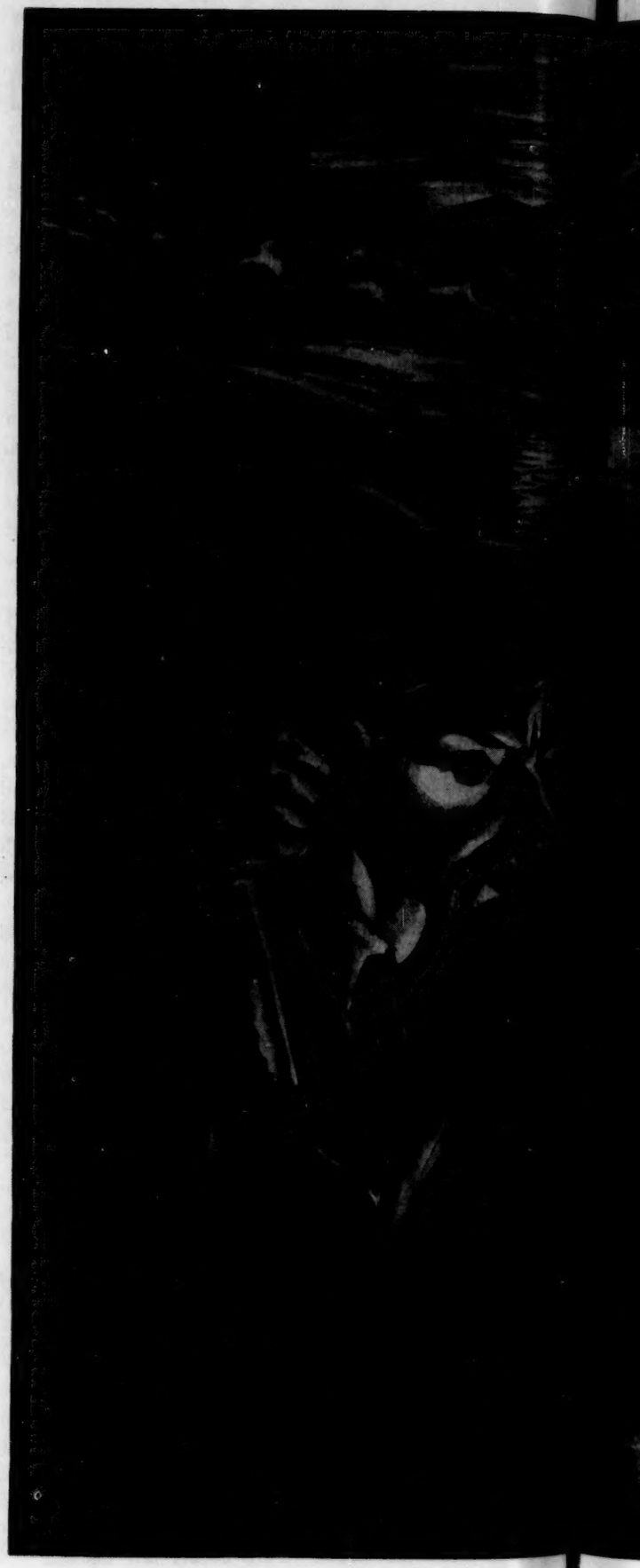
The crossing was without incident except that over towards the French coast, we mistook a low lying star for a ship's light, which caused us some concern. Half way across we ran through a long cloud of smoke, blowing down Channel from burning Boulogne. Round about one o'clock we began to see the loom of France

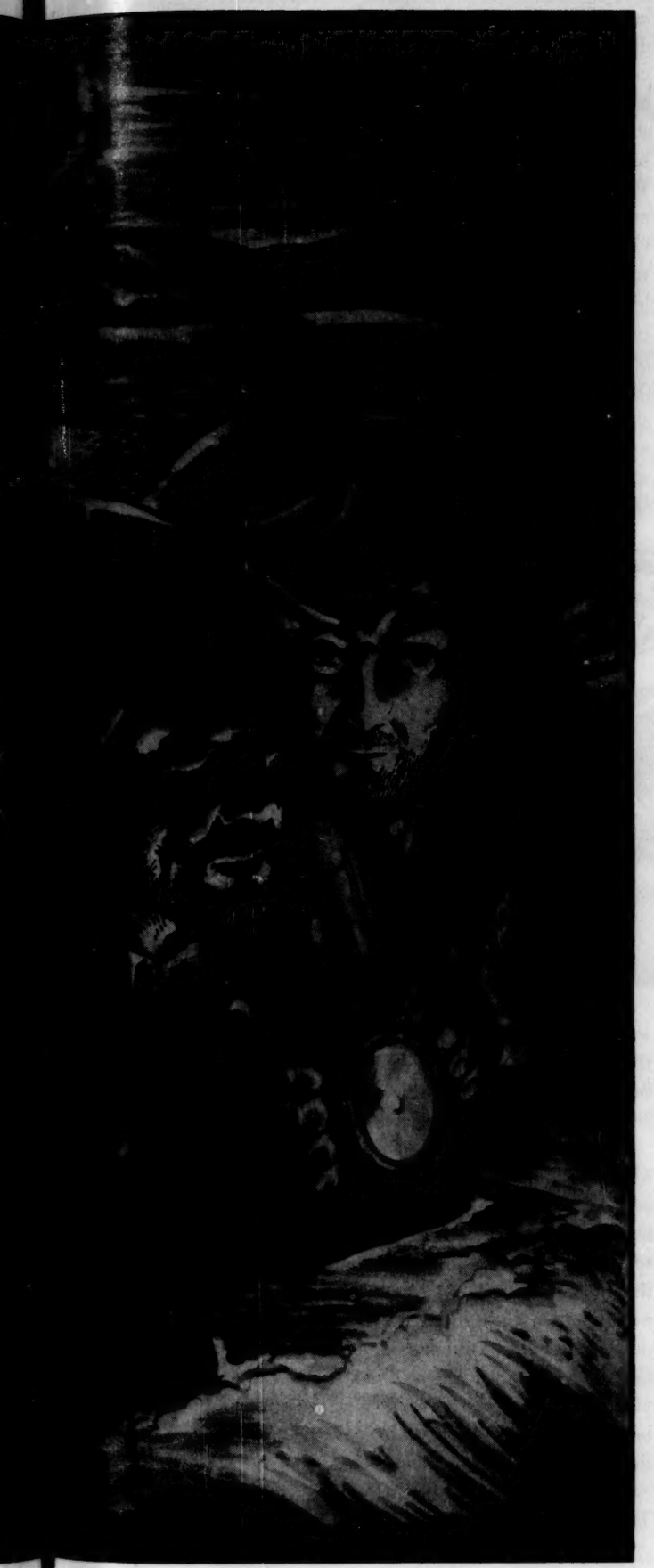


Saved from the Nazis. Were others left behind? →

ahead of us, and shortly afterwards eased the engines. The night was dark with a sort of afterglow round the horizon so that we could clearly see the outline of the hills. Goldie, the pilot, was in the cockpit — this was his part of the program. He was cheerful and cool and humming that scandalous ballad "The Ball of Kirriemuir." To me he seemed to have an impossible job, and I only hoped we would be landed within some miles of the spot selected. We started to take soundings and eventually began to find the bottom. But we now seemed to be close in, and we could faintly see the line of surf on the shore. Someone offered me a tot of rum but, much as I wanted it, I gave orders that the landing party should not have any. The smell of it would have complicated our story if we ran into trouble on landing.

Suddenly we saw a light ashore. We immediately stopped engines and waited. The light was moving slowly from right to left, well down on the beach, and appeared to be carried by someone. Immediately ahead of us it disappeared. Well, now! Here was something to think about! It was obviously a patrol of some kind and we feared that we might have been seen or heard. However, after coming so far, and after the debacle of the previous night, there was nothing for it. The small pram dinghy was got into the water and the cadets with our gear got in. Goldie came up to me and put his arm round my shoulder. "Major," he said, "I'm a navigator, not a magician, but I don't think you're far from where you want to be." Dear old Goldie! We shoved off and pulled slowly in, and to our mingled delight and regret soon saw the *Halcyon* fade into the night. One cadet — the oddity — we'll christen him Freddie — sat in the stern, John pulled and I crouched in the bow. We had only about 400 yards to go. We could just see the beach, and with the knowledge that someone was moving there, our senses were keyed to the limit. Slowly we paddled in until our oars started to ground about 70 yards out. We slid over the side, gave the dinghy a gentle push, and trusted to the gentle off shore wind to take her out to sea. I held the wireless set in my hand clear of the water and we started to crawl in. At the water's edge we lay flat and listened and looked. I thought of the pictures of the beach that I had seen. At this state of the tide it was about 200 yards wide and ran up to an irregular line of dunes about 50 feet high. I noted the contours. Some night birds and insects were singing, but otherwise all was still. We started to crawl up the beach towards what looked like a small gap in the dunes. We were going well when I happened to notice there was something peculiar in the surface of the beach. It was deeply patterned by the wheels of vehicles, and was clearly a crowded highway by day. We paused. I looked again at the contour of the dunes ahead. Yes, I was certain of it. Faintly silhouetted against the sky was what looked like the top few feet of a tent, immediately ahead of us. I remembered the





light we had seen and decided to ease off to the right where a shallow sheet of water finding its way to the sea would hide our tracks in the sand. Slowly we crawled up to the dunes and eventually lay down behind some scrub in what looked like a shallow depression in the dunes, with a stream at the bottom. I told Freddie to wriggle over and have a look at the tent-like object. He returned after some 10 minutes. "Yes, it's a tent all right, and it's full of Bosche. I heard them talking. There must be a dozen of them." The words tumbled over each other as he told the news.

The time had slipped by unnoticed, and it was getting on towards two-thirty. There was now a little more light and I decided that it wasn't a healthy spot to loiter in. I told the others to move off inland and indicated some thick bushes over to the right where they should meet me in three nights' time. If I wasn't there they were to go down to the water's edge. They crawled away and I moved off to find a lying up place. I was particularly anxious to get rid of the wireless set which I would have had difficulty in explaining away. I found a bush which gave me a view down the small gulley and was less than 200 yards from the tent, got well into the middle of it, buried the set a few feet away and tried to take stock of the situation. We were into France, and if our immediate prospects weren't exactly rosy, we had at least had all the luck so far. Though there were doubtless many small streams on this bit of coast it rather looked as if Goldie had brought off a plain navigational miracle.

I treated myself to some malted tablets and some brandy, took off my shoes and socks, and started to cut away the inside of the bush so that I could stretch my legs.

It didn't seem long before it was broad daylight. I was busy clearing the inside of the bush when I heard someone whistling. A young, fair-haired and good looking Bosche was making his way towards the tent, passing about 20 yards from my bush. Shortly afterwards several Bosche appeared from the tent and obeyed the calls of nature. Some stared out to sea with glasses as if trying to see the English coast. I was beginning to enjoy my front seat, for the situation had its humor, till a bird perched on my bush and, seeing me below, flew off with a startled scream, followed by my curses.

As the morning passed life became full of interest. Lorries began to pass up and down the beach, some carrying troops, some stores, accompanied by motorcycle combinations. There was great activity round the tent when a relief took place. Some Messerschmitts flew low over the beach so that I could see the pilots. Later in the day I saw some British Spitfires out to sea, flying south. The Bosche amused themselves by firing their rifles at something I couldn't see. During the afternoon a party of them left the tent and moved north firing into every bit

of cover on the way. They were met by a party from the north. I breathed a prayer that they would not come in my direction, but felt that something had disturbed them. Perhaps the dinghy had been found and they suspected our presence. My quarters were very cramped and I longed for the night so that I could get on the move. As evening approached rabbits came and nibbled grass within yards of me, their friendly presence underlining the unreality of the whole business. As darkness came I ventured out and started to explore the coast.

During the three days and nights that followed I found that the enemy had posts along the beach about half a mile apart. The second night was nearly my last. I was getting into the habit of moving quite freely and at about midnight sensed rather than saw a movement some way from me. It looked like a glint of light on a helmet. I was at the top of the beach in some grass and immediately lay flat and "froze." With eyes and ears straining I gradually saw figures looming in the darkness. A patrol passed so close that a pebble could be flicked at them—two men in the lead, four men a few yards behind, two men in the rear — a perfect reconnaissance patrol of ghostly figures moving in complete silence. They passed, and I lay for a long time not daring to move expecting their return. I was grateful for the jolt to my over-confidence.



During those nights the noise of tracked vehicles clattering away to the south could be heard, carried on the night breeze, and the sound of men singing on the march. I was later to learn the tune of the song which German troops must have been singing all over northern France at that time, "We march against England," and to sense the hate in the final chords, "Englander! Englander!"

As darkness came on the third night I felt in high spirits. Soon we'd be on our way back to England in the *Halcyon*. I left my bush and waited for the arrival of the others. By 10 o'clock there was no sign of them so I went down to the water's edge and moved first to the north with water to my knees.

I had been in the water some little time when a figure appeared ahead. I went underwater to my eyes and the figure also disappeared. I eased myself back to the beach and, lying flat on my back, waited for the figure to reappear. Sure enough he did. Deciding he must be either Freddie or John, or someone in the same predicament as ourselves, I got up and went into the water to meet him. He quickly disappeared in the darkness, however, and I have never discovered to this day who he was. With some discretion I moved south and was overjoyed to find, in a very short time, Freddie and John in the water. We all trooped back to my headquarters where I heard their story. They'd covered about five miles of country, they said, but found it was simply crawling with Germans. They couldn't move by day and nobody but Germans moved at night. They'd seen a few French people in the village of Neuchatel but couldn't get near them. The woods just inland were a staging place for tanks and lorries, and there was a big movement going on directed to the south. They hadn't seen a sign of any British troops.

I got out a wireless message giving the situation. This should have been received by the minesweeper. The message was repeated at intervals for the next hour, by which time the *Halcyon* should have been closing the shore. We then went down the beach and far into the water, where, with arms round each other's shoulders and a jacket over our heads, we flashed prearranged signals out to sea. It was cold work, but we were full of hope.

By about 2:30 AM we began to realize that our luck was out, for this night anyway. Rather subdued, and shivering with cold we retired to my headquarters, now in a large clump of bushes, took off our soaking trousers and tried to get our circulation back. We realized how dreadfully hungry we were, having had little to eat for three days. We savoured the last drops of brandy, grand-marnier and cherry brandy and, with legs entwined under wet trousers to retain what warmth we could get, awaited the day.

The next two days and nights were not much fun. Each night we got our wireless messages off at intervals and, sometime before midnight, went down into the water up to our chests and started to flash our recognition signals to seaward. The water was shallow, and the nearness of the German post made it essential to get as far out as possible. Daylight hours we spent trying to get rid of the deadening cold in our legs and watching the antics of the Germans. At 2:30 AM on the last night nothing had happened and we realized we'd "had it." We walked up the beach caring less than nothing about the Bosche, buried the set and started to move inland.

We were ravenous and food was a prime necessity. There was time enough to plan the future.

To be completed next month.

How Would You Do It?

By Maj Fred E. Haynes

BACK IN THE GOOD OLD DAYS OF "THANK YOU, Mr Atkins," when *the bomb* was yet a Buck Rogers subject, and the 37mm AT gun was still a fair weapon when it came to a showdown with a Nip tank or a small pillbox, a group of officers pondered a real estate problem involving an insignificant piece of Japanese property. The property was Iwo Jima, insignificant to most of the world, but a corner lot to the Joint Chiefs of Staff.

Since the Japs were in no mood to barter, the island had to be taken by force. By October 1944 the planning task had sifted down to the fighting level, and the 28th Marines were aware that they had been given the left flank spot in the starting lineup. The regimental zone wasn't very large but when viewed in stereo, that mountain—Suribachi—was almost enough to make you question the wisdom of your request for FMF duty. As photos from more sorties came in, the mountain looked even worse. Obviously, it required all the supporting fire that could be mustered until the tanks got ashore, and the troops wheeled left to close with the mountain.

When the big plan finally came out, it provided for the regiment to land in a column of battalions, the initial battalion in four LVT waves, followed by a weapons company wave, then three more LVT waves with the second battalion. One battalion was held out as 5th Marine Division reserve. That weapons company was immediately presented a big problem.

There were only four LCMs and eight LCVPs available for it and that was final. We could load the halftracks in the four LCMs and split one 37mm platoon between the eight LCVPs, the prime movers in four and the guns in the remaining four. Another four 37s in that wave would certainly be a help, but how could we do it?

Someone came up with a solution. Whose it was, I don't know. At any rate, one pleasant Hawaiian day, Weapons Company invited us down to the beach for a demonstration of their idea of a solution.

What was it? Well, the regiment had about 10 weasels (M29Cs), eight of which were rigged up by the 37mm boys with light timbers securely fastened around their gunwales. A 37mm gun was then run up and secured by cable on the timbers, wheels astride the cargo space, tube forward. Ammunition was placed in the cargo space. After landing, the gun was run off the weasel and hooked to the rear, ready to go into action anywhere.

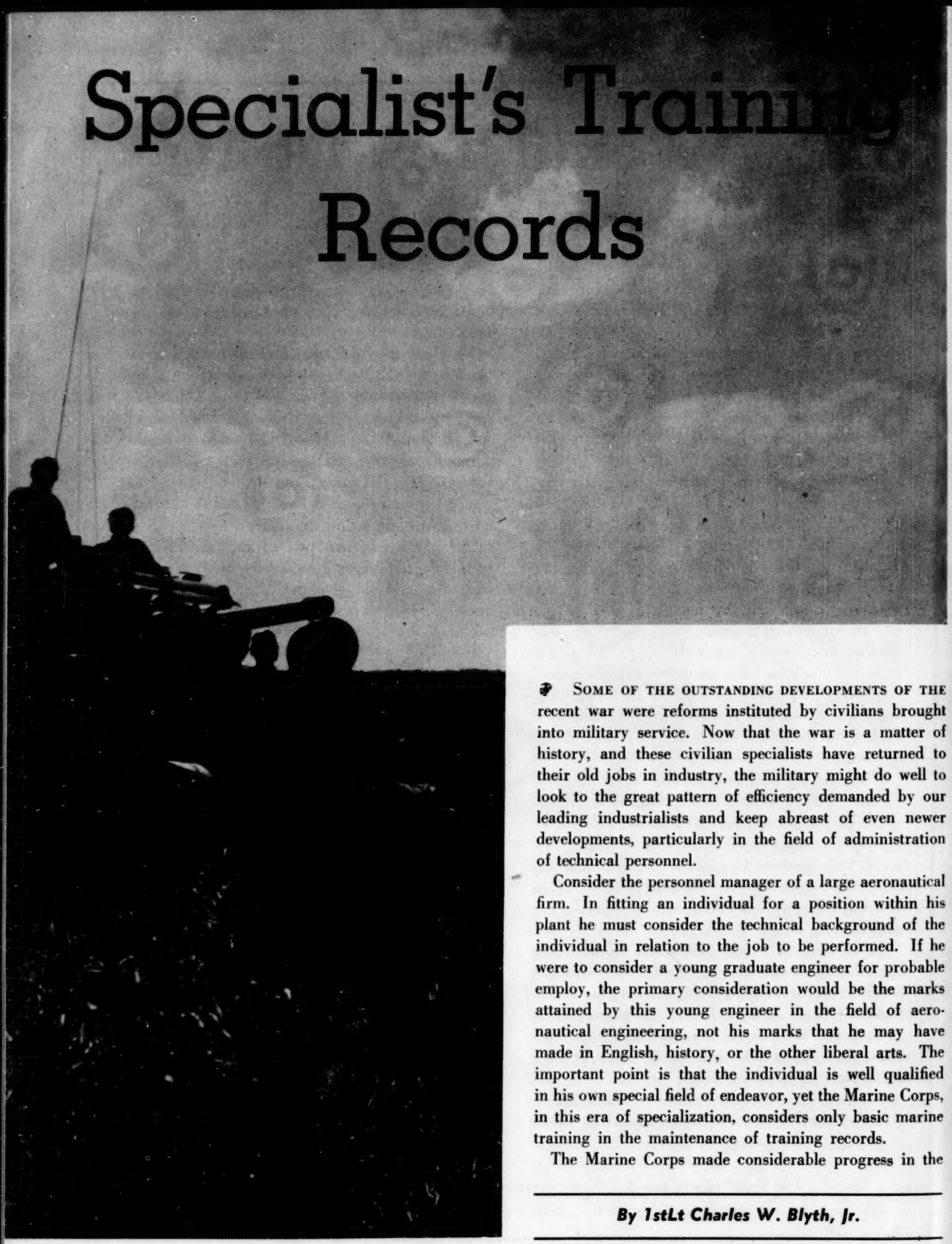
Use of the rig had two advantages: First, it would put four more guns ashore by H plus 22; secondly, it would give the 37mm guns tracked prime movers and more certainty that the volcanic-ash beach and terraces could be negotiated.

But there were two disadvantages that nearly scotched the deal. First, the center of gravity of the weasel-37 combination was a little high. Secondly, the combined weight with crew and ammunition was slightly over the LCVP rated capacity. The regimental commander and his executive officer hesitated—for good reason. After much diplomatic persuasion, amounting almost to tears on one occasion, they agreed the project was worth the risk of losing a gun or two if a heavy sea ran during the landing. No further trouble was encountered except with the skipper of the APA lifting the Weapons Company to Iwo Jima. He was as concerned for his LCVPs as the colonel had been for his guns — but he finally agreed.

The rest is history. On February 19th, 1945, all eight guns hit the beach at H plus 22, as planned. Only two were lost on the beach. It would be exaggeration to say that the extra fire power played a decisive part in the 28th Marines' early success. But it was in keeping with the age-old principle of concentration. And those six remaining guns did a splendid job on that day in Februarv. USMC

The GAZETTE *will pay $25.00 for service-connected problems and their solution.*

Specialist's Training Records



SOME OF THE OUTSTANDING DEVELOPMENTS OF THE recent war were reforms instituted by civilians brought into military service. Now that the war is a matter of history, and these civilian specialists have returned to their old jobs in industry, the military might do well to look to the great pattern of efficiency demanded by our leading industrialists and keep abreast of even newer developments, particularly in the field of administration of technical personnel.

Consider the personnel manager of a large aeronautical firm. In fitting an individual for a position within his plant he must consider the technical background of the individual in relation to the job to be performed. If he were to consider a young graduate engineer for probable employ, the primary consideration would be the marks attained by this young engineer in the field of aeronautical engineering, not his marks that he may have made in English, history, or the other liberal arts. The important point is that the individual is well qualified in his own special field of endeavor, yet the Marine Corps, in this era of specialization, considers only basic marine training in the maintenance of training records.

The Marine Corps made considerable progress in the

By 1stLt Charles W. Blyth, Jr.

TANKS SPECIALIST TRAINING RECORD

Name: _____ Rank _____ Serial _____

	Hours Instruction Per Month														
	January	February	March	April	May	June	July	August	September	October	November	December	Total Hrs	Mark	Of Initia
General Subjects:															
1. Tank Driving															
(a) Obstacle															
(b) Formation															
2. Tank Gunnery(practical)															
(a) Direct															
(b) Indirect															
3. Crew Drill															
4. Maintenance															
(a) Preventive															
(b) Organizational															
5. Waterproofing Vehicles															
6. Communications															
(a) Visual															
(b) Radio															
7. Field Expedients															
8. Camouflage															
9. Ammunition															
10. Tank Decontamination															
Special Subjects:															
1. Flame Thrower															
2. Tank Dozer															
3. Tank Platoon Tactics															
4. Tank Co. Tactics															
5. Tank Bn. Tactics															
6. Amphibious Operations															
7. Tank Coordination															
(a) Infantry															
(b) Air															
(c) Artillery															
8. Tank Bn. CPX															
9. Special Operations															
10. Logistical Support(Tks)															

REMARKS:

administrative control of enlisted training records when it adopted page seven of the new service record book, but progress was halted at the half-way mark when it considered only basic marine training. No provisions have been made for recording the training achievements of the individual in his own specialty. True, there are possibly many methods by which we may determine the qualifications of an enlisted man other than referring to his training record, but it is all too often inconvenient and cumbersome. If it is necessary to utilize a page in the service record book to consider basic military training, then it is even more essential that we adopt a page for similar consideration in specialized fields.

Consider a tank platoon leader receiving the service record book of an individual recently transferred into his organization. Does he consider primarily the qualifications of this man insofar as his capabilities in drilling foot troops, assembling the proper pack, firing the M-1 rifle or automatic pistol, pitching a shelter tent, or digging a slit trench of proper dimensions, *or* does he consider how well this man can drive a tank, whether or not he can properly perform tank preventive maintenance, how fast he can accurately manipulate the 105mm howitzer or 90mm gun, or properly employ the radio and intercommunications system.

Page seven of the service record is a fine development for infantry units, but the Marine Corps is not composed of infantry units in its entirety. The Marine Division is now a finely knit organization of infantry, artillery, engineers, communicators, tanks, other tracked vehicles and wheeled vehicles, and other equally important units. The author well knows that the Marine Corps is basically amphibious infantry, but it is basically infantry in that all these other units were organized to support the infantry and to assist them in the accomplishment of the mission. Furthermore, the infantry depends on this support to be within the functional field of the specialist unit, not as reserve infantrymen or replacements. It is concurred that basic marine training is essential, and it should be included in the training curriculum of every organization (but with discretion). Should we fail to realize the importance of these specialist units, we are defeating the very purpose of military occupational classification. By simple logic it must follow that the greater part of unit training programs must be devoted to specialist subjects peculiar to the functions of that unit only (but including coordination between the various type units). Therefore, if we are to obtain a true picture of the individual's state of training, it is logically essential that we have some means of recording the training received within the specialty fields. Oddly enough, the new training record card, with certain modifications as to subject matter, provides the solution to our problem.

SUGGESTED is the card illustrated; it is entitled "Specialist Training Record." Numbered as seven (a) and in loose leaf form, it can be easily inserted in the new service record book immediately following the *basic* training record. For simplicity, the marking of the specialist card remains the same as the basic card. Admittedly, no one single page would be applicable to all units. The example illustrates a training record peculiar to a tank organization. The components of artillery, engineers, amphibian tractors, signal, etc., will necessarily need to design their own training records with subject matter peculiar to their own functional training but along a form similar to the basic training record. By processing recommendations from the several Fleet Marine Force units, it would require but a minimum of effort for the proper authorities at Headquarters to build an efficient system of conducting specialist training.

Such a system of Specialist Training Records, if adopted, will provide the Marine Corps with a more competent means by which a unit may estimate its training proficiency rather than the present outmoded, inaccurate, and incomplete estimate based solely upon basic training records. Such a system will coincide with military occupational classification and achieve a proper balance between basic military training and specialized military training. In other words, it will take a few of the round pegs out of the square holes and eliminate some of the misfits. USMC



Use two up,

And Feed

THE TITLE OF THIS ARTICLE IS SUGGESTED BY A stock phrase from The Infantry School, Fort Benning, Georgia. In 1944 an Army officer acquaintance was advising me on how to "get along" in the Officers Advanced Course to which I had just been ordered by Headquarters, Marine Corps. His advice to me could be summed up as follows: "Don't fight the problem and in tactical exercises always remember to use two up, one back, hit 'em on the flank, and feed the troops a hot meal."

The reader is assured that we were frequently reminded during our 14 weeks course of the importance attached to feeding the troops a hot meal. I cannot remember any school tactical exercise at Fort Benning which did not involve furnishing the front line troops with two hot meals and a box of lunch each day.

These hot meals were usually delivered to company areas by trucks which had to make the round trip from the regimental train bivouac to the front lines and back during hours of darkness. The noon meal box lunch was distributed to personnel at the breakfast chow formation. When you considered the time required for each man to make two round trips from his fox hole to the mess area and back, cleaning mess gear, eating and standing in line during the interim of two hours after dark to about two hours before dawn we sometimes got the impression that front line soldiers spent the major portion of each evening with activities incident to eating.

At that time the school doctrine appeared to have some impractical aspects although I certainly admired them for the emphasis which they placed on this matter of keeping their personnel well fed. And I was certainly impressed with the allowance of 19 trucks in each Army infantry regiment which were used solely for the purpose of delivering two meals a day to their troops. I say their doctrine "appeared to have impractical aspects" because my own thinking had been conditioned by experiences in the South Pacific where we never had enough transportation, where there were no roads, and where no one moved

Troops A Hot Meal

around at night in forward areas in order to eat, answer calls of nature or for any other reason.

None of the foregoing is intended to be critical of our Army comrades. My personal feeling is that generally speaking they did a better job of feeding their troops in the field than we did in the Marine Corps. My purpose is to show that in 1944, three years after Pearl Harbor and Hickam Field we were all struggling with the problem of how to feed our combat troops.

It is my belief that the Marine Corps doctrine of feeding troops in combat was to give them K-rations, J-rations, C-rations and D-rations most of the time and a hot meal, which we called B-rations (present nomenclature is Field Rations, operational B) whenever we could. Of course certain enterprising individuals managed to augment this fare by visits to any nearby Army, Navy, or Seabee kitchens.

ALTHOUGH the complaint is made that we did not give our troops enough hot meals my personal experience has shown so many disadvantages to feeding troops in forward areas meals of the B-ration type that I feel the practice should be discontinued entirely. This recommendation is based on our past techniques used to prepare and distribute the hot meals to the troops.

The following critical observations are presented to show the need for improvement in our technique of feeding combat troops.

1. *Cleaning mess gear.* At present each Marine has his own meat can, cover, knife, fork, and spoon which he is supposed to wash before eating and again afterwards. Whether feeding on a battalion or company basis it is a terrific problem to provide the proper number of containers full of hot clean water as a necessary cleaning facility. And regardless of the facilities provided there is no solution for the individual who is in a hurry or is careless about washing his mess gear, or who eats his food with dirty fingers. Two solutions to the matter of washing mess gear are suggested. One solution is to provide disposable spoons and trays with each meal. The other is to pick up individual mess gear, throw away the knife and fork, retain the meat can, cover, and spoon as organizational property which will be reissued at each meal and collected afterwards for a thorough cleaning by service troops under supervision.

2. *Personnel required for preparation and serving.* Our present K-Series Tables of Organization allow a total of 55 enlisted personnel for the mess section of an infantry battalion. Our present technique of preparing and serving hot meals in the field certainly requires this number of cooks and messmen. Considerations of economy in the employment of our military manpower dictate that this drain on our combat strength should be reduced. Pertinent to this subject is the ever present shortage of good cooks and mess management personnel in wartime.

3. *Hot meals are seldom hot.* The principal reason for serving B-rations in the field is to furnish hot, appetizing, and nutritious chow which approaches the standards of food served in garrison. If for any reason we fail to have the food hot when a man eats it we have sacrificed much of this advantage. There are many reasons why this can happen and I am sure your personal experiences can supply frequent occasions where it has happened.

4. *Concentration of personnel.* No commanding officer wants any portion of his unit concentrated in a relatively small area in front line positions. When troops are fed from a chow line the problem isn't one of preventing congestion but rather a problem of holding down the extent of congestion. Any such concentration of personnel is a highly remunerative target for enemy artillery and air.

5. *Garbage and waste disposal.* The matter of disposing of boxes, cans, preparation waste, leftovers, scullery and mess gear water is a very real sanitation problem. In

By LtCol Wade M. Jackson

the field about the only solution is to dig a large hole nearby. This doesn't solve the problem of small quantities of food spilled by individuals. In spite of the most elaborate precautions and with the best disciplined troops you may take for granted that any field mess area will attract swarms of insects.

6. *Sickness.* The unsolved problems of improperly cleaned mess gear, eating with dirty hands, spoilage of perishable items, and contamination during preparation and serving all of which is incident to and inseparable from messing in field combat conditions combine to increase the likelihood that personnel will get food sickness.

7. *Fresh meats and vegetables.* The time factors involved and special handling required to prevent spoilage makes it extremely difficult to provide these food items.

8. *Messing schedules.* The questions of when, where, and in what order the troops are to be fed a B-ration meal are difficult problems to a battalion commander. This is especially true if he is in contact with the enemy or if he has a warning order to be prepared to move on short notice.

9. *Miscellaneous.* This category will include such factors that our present field mess equipment needs improvement and that suitable mess areas are seldom available in forward areas. Of less importance is the amount of food wasted. It might be mentioned that combat troops have the impression that rear echelon personnel get a lion's share of any choice food items which are delivered to the theater of operations.

The foregoing considerations are submitted to indicate that we should improve our B-ration messing technique or else not attempt to feed this type of meal to combat troops.

MANY PEOPLE are unaware of the extensive research which is being conducted to solve our field messing problems. A glance at available literature on the subject indicates a large number, variety, and combination of rations, food packets, and ration supplements have been designed and tested.

At the risk of making a suggestion which has already been considered by experts and disapproved for excellent reasons a recommended solution is presented.

I feel that we Americans have about five more or less standard and different breakfast, dinner and supper menus. It is suggested that these meals be pre-cooked and placed in suitable containers for shipment overseas. All that would be required in the combat area would be heating and opening. It would be most desirable if the separate items such as meat, two vegetables, bread, dessert, etc., were placed in individual compartments which would be uncovered when the container was opened. The container itself would be a disposable mess tray which could be discarded after the meal. I believe that a menu which provided a variety of five different breakfasts, dinners, and suppers and prepared in a manner to approximate garrison food would provide a satisfactory diet for weeks at a time. It is felt that this would be an adequate and healthful fare with little adverse morale effect on the troops, especially, if it were augmented with fresh fruits and vitamin pills.

Some of our presently designed rations, operational, packaged and food packets possess many of the attributes just mentioned as desiderata.

At present our C-3 and C-4 rations provide such meat component varieties in separate 12-ounce cans as:

Pork Sausage Patties with Gravy
Frankfurters and Beans
Chicken and Vegetables
Meat and Beans
Beef Stew
Hamburgers with Gravy
Beans with Pork
Ham and Lima Beans
Corned Beef Hash
Meat and Noodles
Meat and Spaghetti
Ham and Eggs with Potatoes

In addition to the listed entré components these rations include individual units of canned fruits and the well remembered cans of bread units.

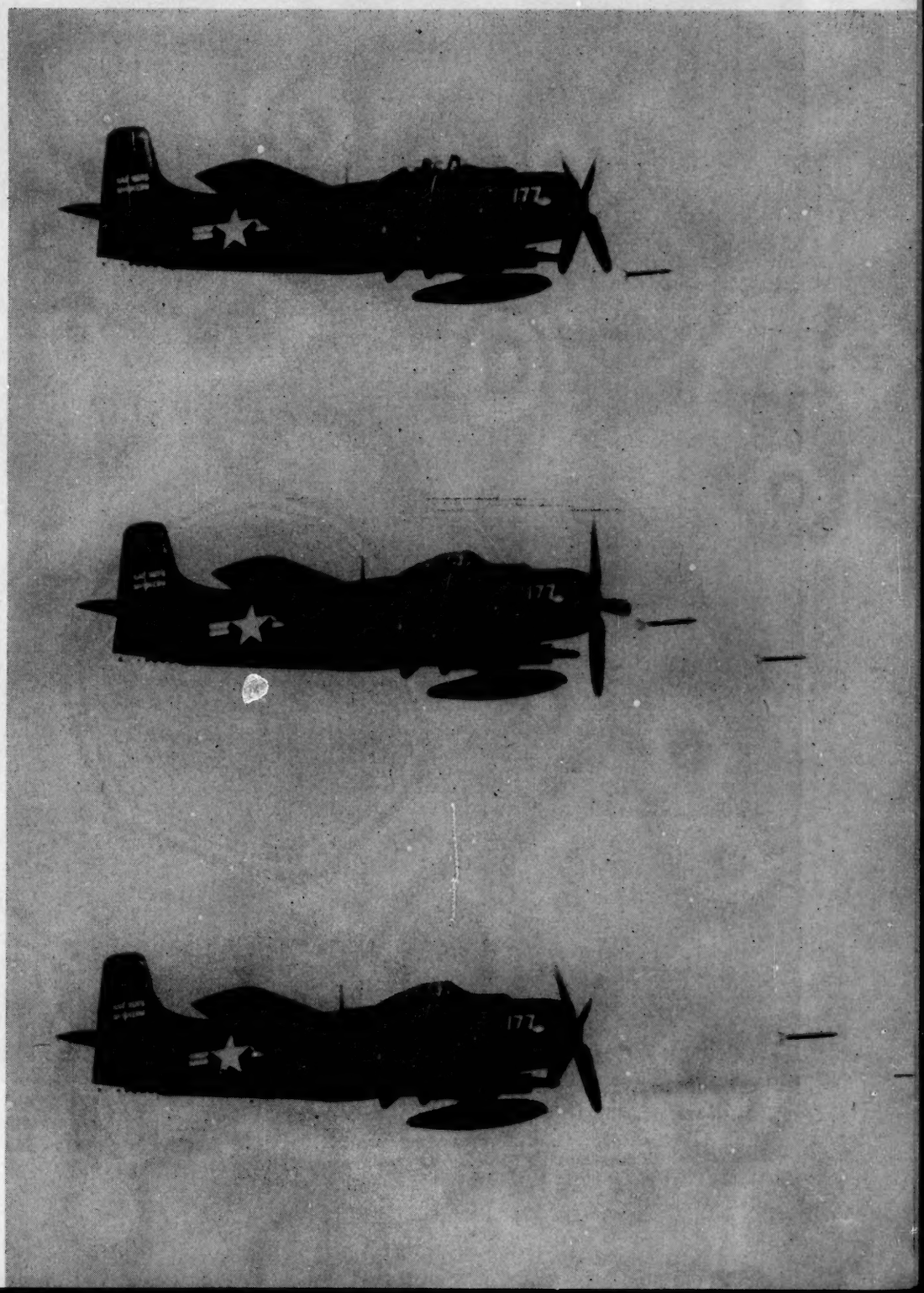
When there is such a variety available and there are so many disadvantages to preparing a B-ration type meal in the field I seriously question if it is worth the effort and risk involved.

Alternatively to my first recommendation it is suggested that battalion commanders in forward areas habitually furnish their troops with C-rations and leave their kitchens and B-rations back at the division dump. I would, however, recommend that the C-ration meat component be heated before distribution to personnel and that hot coffee be provided. My system of distribution would be simple, informal, and entirely unscheduled. My distribution point with an ample supply of coffee and 55 gallon drums full of hot water and C-rations would be operated on a 24-hour basis. Any man would be permitted to take as much coffee or hot C-rations as he wanted at any time. Such an arrangement would allow platoon leaders to send one or two men back with a five-gallon expeditionary can and a burlap sack for chow and coffee as it suited the tactical situation and when their men were hungry. There would be no waste of food and a commander would retain greater freedom of action in employment of his unit. It shouldn't require over 10 men to operate such a distribution system which would release 45 marines to combat duty.

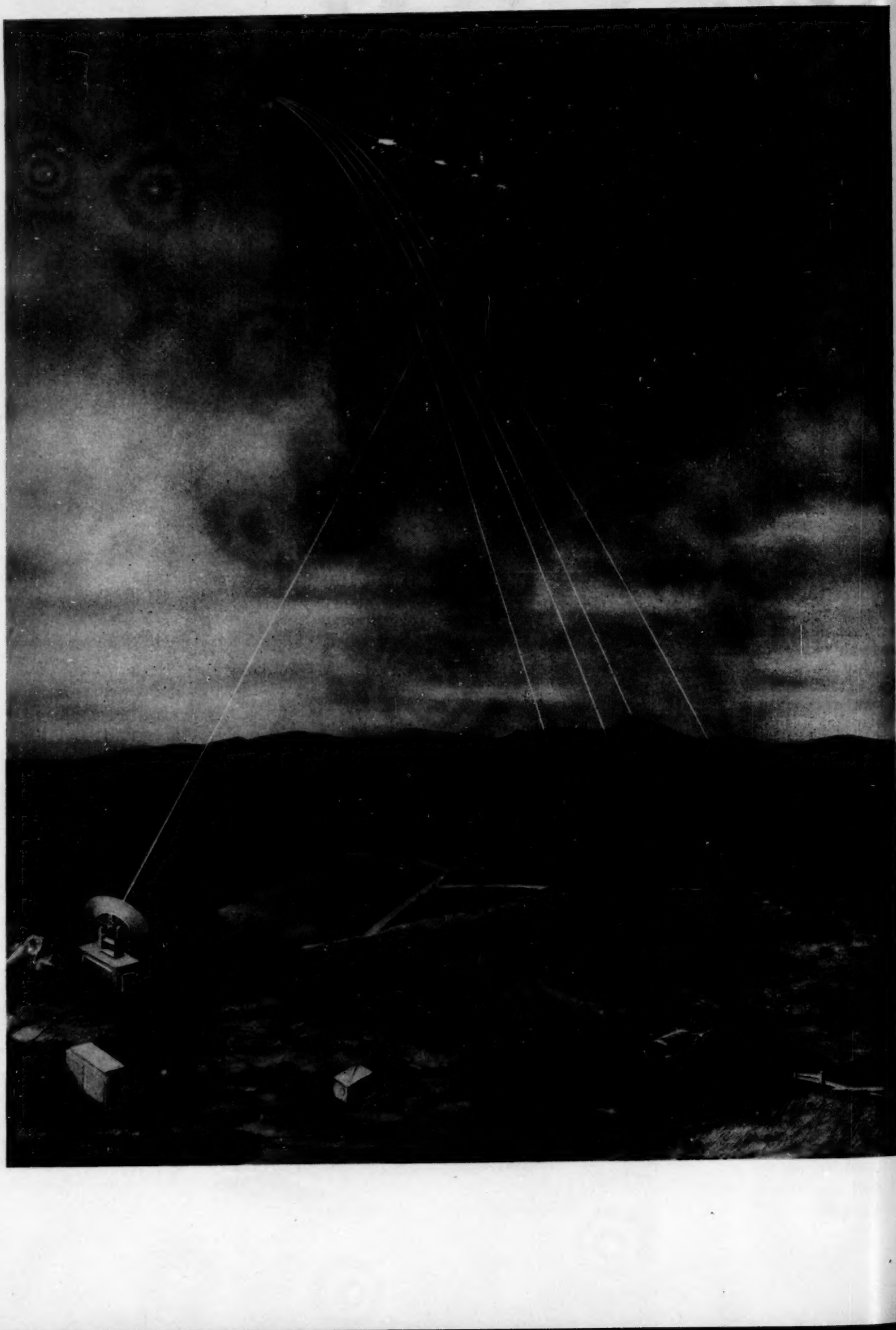
The foregoing presentation is submitted for your consideration in order that we can, "Use two up, one back, hit 'em on the flank, and really, honest to goodness, feed the troops a hot meal." USMC

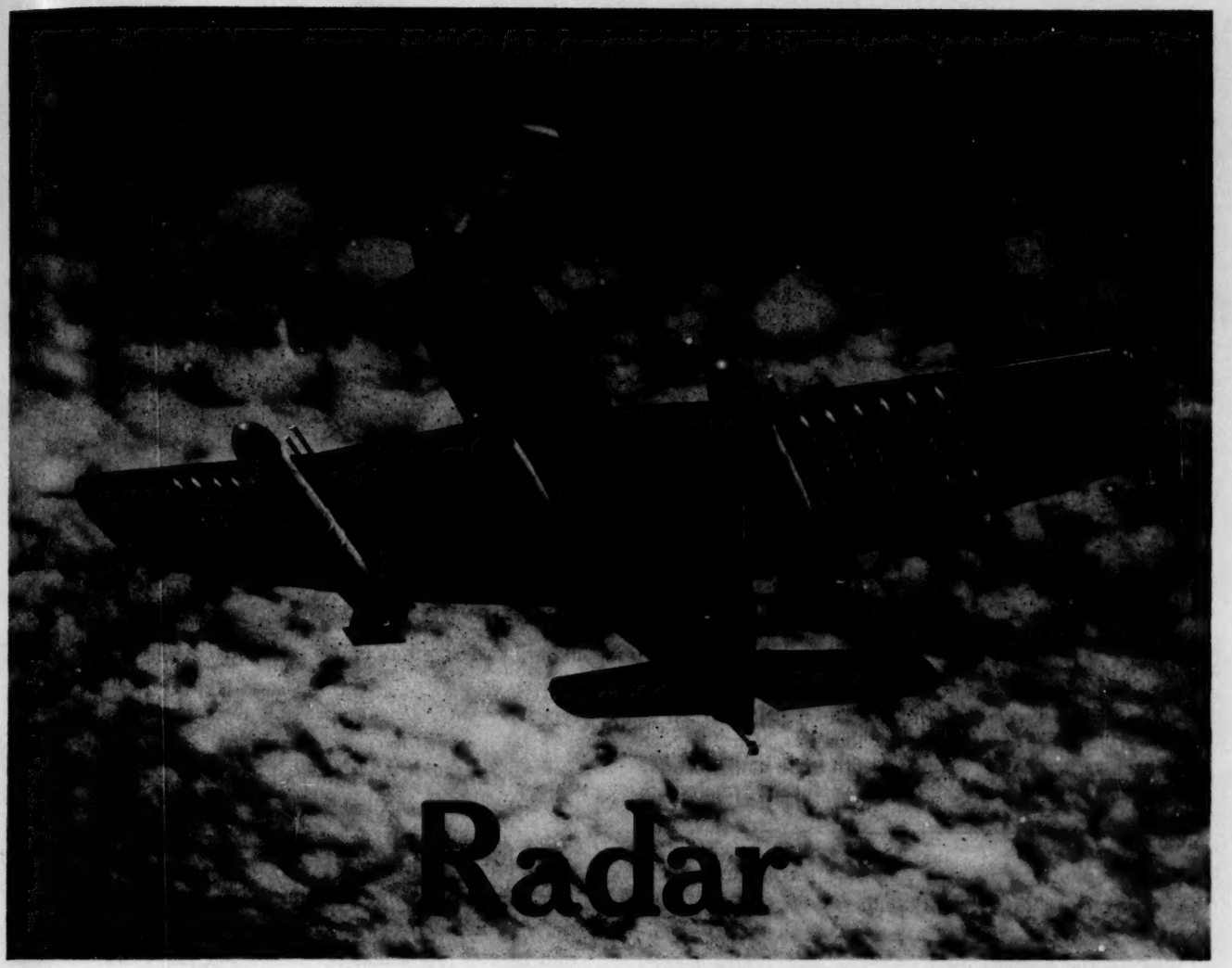
Mighty Mouse

First Successful Air-to-Air Rocket



The Douglas AD Skyraider test-fires the first successful air-to-air rocket, named the "Mighty Mouse," which has been developed by the Navy Bureau of Ordnance. The new rocket is small enough to be carried in quantity by its mother aircraft, yet fast and powerful enough to destroy any known plane with a direct hit. Built for modern, high-speed aircraft against other high-speed planes, the new rocket has far greater speed and range than the aircraft rockets developed during the last war.





Radar

By Capt Arvid F. Jouppi

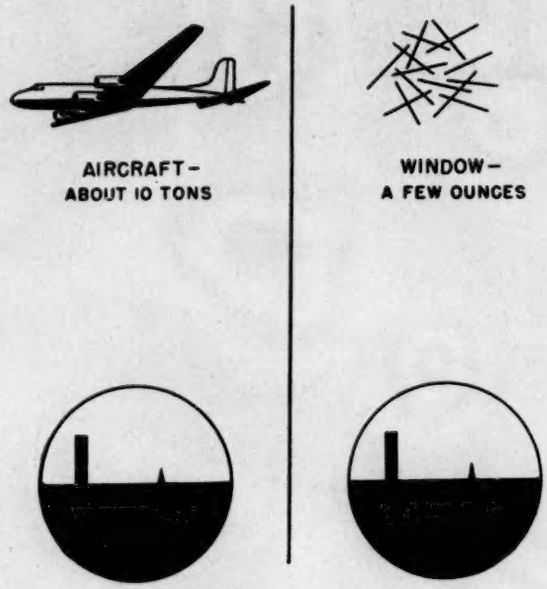
IN ANY FUTURE CONFLICT, RADAR WILL HOLD AN EVEN more important strategic place than during World War II, and the radar user may expect to retain unhampered use of his equipment to a greater degree than before. In other words, radar is advancing at a more rapid rate than radar countermeasures. That any military weapon as new as radar should develop faster than its counter-weapon is natural.

This disparity of advancement should lead to a decision early in any campaign systematically to destroy enemy land-based radar. This is a big assignment and a hazardous one, when it is considered that radar is used to direct antiaircraft fire, guide fighters to attacks, and conceivably to supply intelligence to guided missiles. It seems unwise to permit enemy radar to assume only the same importance as other enemy installations, marking them for destruction without priority. Radar is here to stay. It is the enemy's eyes, without which his attack is relegated in many categories to pre-World War II standards.

Radar countermeasures are no cure-all. They are only an aid to rendering enemy installations useless, and one

← Artist's conception of a radar-controlled gun battery in perfect operation. The radar passes instantaneous position data continuously to the computer. The computer solves the key problem: where will the target be by the time our antiaircraft fire can intercept it? The solution is passed to the gun director, which trains the guns for the kill. The entire chain can be broken by judicious use of radar countermeasures. The attacker could jam the radar so that it would pass erroneous information or the radar could be located and subsequently destroyed.

Capt Jouppi is a reserve officer presently employed by the Sperry Gyroscope Company. Formerly an Associated Press news editor, he now manages Sperry's technical periodical Sperryscope. *He is particularly interested in such things as radar, gunfiire controllers, guided missiles.*



An aircraft is a random mass and a poor reflector of radar energy. Window (right) is excellent reflector. A few ounces of window can yield indication on radar screen as strong or stronger than that from bomber. Aircraft can fly in area saturated with window with little danger of being tracked by radars on the window affected frequencies

phase of countermeasures — searching for radar — is indispensable even for physical reduction of these installations.

Why is the admittedly hazardous and costly recommendation of physical destruction advanced when it is known that our scientists are well capable of performing electronic miracles? To arrive at an answer it is necessary to review the radar lessons of World War II.

Until 1943 the user of radar could be reasonably certain that radar reception would not be impaired by the enemy. If his set were operating properly, the user could feel certain that radar targets appearing on the screen were from conventional causes — aircraft, ships, ground or sea return, weather fronts, or from land objects such as mountains or buildings. In the main, the military man assigned to radar was so fascinated with his new instrument that he was unaware that for this military weapon, as for all war weapons, countermeasures were being developed.

The counterweapon, as developed both by the Allies and the Axis nations, took two forms: mechanical countermeasures and electronic countermeasures, both designed to clutter up the radar screen so that conventional targets were indistinguishable from interference patterns. The mechanical means, in its most common form, consisted merely of thin metalfoil strips, called window, cut to a length giving maximum reflection of radar energy at the desired radar operating frequency. To a radar an aircraft is a random mass having no particular quality of refracting radar energy on any one operating frequency. Window, being *tuned* or cut to the proper frequency (one-half wavelength), produces an echo equally as good or better than that from an aircraft although the window mass is infinitesimally smaller. (An ounce against a ton is a conceivable ratio.) When window is used effectively, the radar receiver picks up indiscriminately both true radar targets and returning echos from the metalic strips. The same is true if electronic countermeasures, usually a jamming transmitter tuned to the radar operating frequency, are used. The jammer conventionally is noise modulated to simulate atmospheric static, the same vicious deterrent which affects home radios. Both mechanical and electronic countermeasures can achieve the end effect of cluttering up the radar indicator. From about mid-1943 to the end of both the Japanese and European phases of the war, no radar operator could depend completely on unhampered radar reception, as both camps placed great effort on rendering opposing radar useless or limiting its value. Operationally, the window type of countermeasures was far the more prevalent.

ELECTRONIC JAMMING, while more effective in most cases, is far more difficult to accomplish tactically than using window. A radar transmitter may be said to work only intermittently. It puts forth a tremendous effort in sending out its pulse of energy and then effectively shuts itself off while the receiver remains in operation to pick up whatever energy may be refracted from objects in the sector covered. These transmitted pulses may vary in length from approximately one-half microsecond for gunfire type radars to as long as 30 microseconds for long-range air search type radars where precise location is not essential. The repetition-rate-per-second ranges from about 1,000 down to 200. Hence, the actual working time percentagewise of any radar is small.

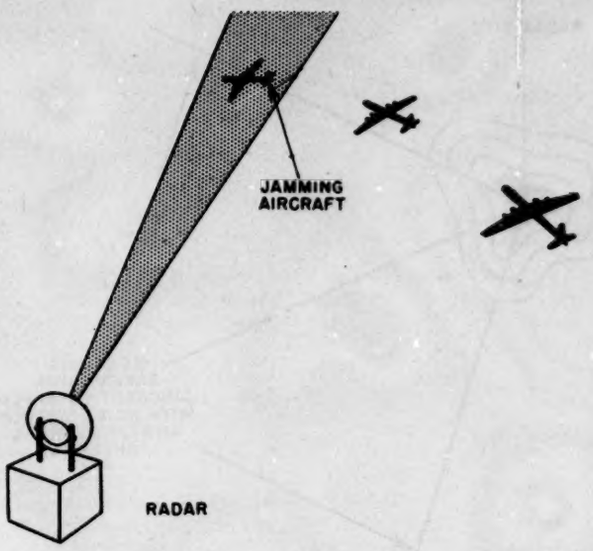
If the radar may be lazy the jamming transmitter dare not. To be effective it must generate energy continuously. While it does not need to match the peaks of transmitter output, it must second after second and minute after minute match or exceed all the echoes resulting from these pulses of radar transmitter energy. Fortunately, it is the receiver only which must be jammed; nothing can nor need impair the transmissions. (This, incidentally, is the reason why the Russians can effectively jam U. S. State Department broadcasts: Their jammers need not obliterate the full strength of the transmitted signal; only the attenuated signal which reaches the Russian radio receiver.) The radar jammer, however, has the advantage that its energy needs to travel only one way while the radar transmission must make a round trip. Mathemati-

cal analysis of the relative output powers required by a given radar and a jammer for it is complex, but the result is that the jamming transmitter may need to put out, on the average, as much power as the radar, and this from the air where it taxes the aircraft electrical power supply and where weight and space are critical factors.

At low radar frequencies, as typified by the SCR-268 searchlight and fire control instrument operating in the 200-megacycles-per-second region, the tubes were available to do the jamming job. And during the course of the war, even 3,000 megacycles-per-second jammers were developed: a considerable achievement when it is considered that the device had to put out enough energy *continuously* to overcome a radar, which is *pulsed*. If the enemy expected to avoid completely the susceptance to electronic jamming he had to move even higher in frequency, to the shorter microwave lengths.

EVEN without the emphasis placed on avoiding enemy impairment of radar signals, the combatant nations would have pressed into service radars operating on higher frequencies, especially for fire control duty. The technical advantages of high frequency, or microwave radars are not within the scope of this article. The point is that it proved considerably easier to operate a radar at a given very high frequency than to develop an electronic jammer to counter it. Had jammers been available to match every type of microwave radar in operation, their tactical use would have been much more difficult than against lower frequency radars. As radar frequencies go up, it is possible to narrow the angular dimensions of the radar beam, these dimensions defining the cone from which the radar receives echoes at any given instant. It is necessary to operate the jammer within this cone, and if it is small the job is difficult and, in any case, a greater number of jammers are needed to obliterate a given sector as measured at the radar.

Microwave radars, while taking advantage of the lag in development of high frequency, did not, as mentioned earlier, avoid their inherent susceptance to mechanical jamming. In this type of jamming, the *radar itself* produces the energy which results in the clutter on the screen. It is relatively easy to determine the operating frequency of microwave radars of unknown frequencies. A tunable receiver can search the spectrum just as does the standard home radio when the station selector dial is rotated. Such tunable receivers are far easier to develop than transmitters due largely to the less stringent tube power output requirements. Once the radar operating frequency is known it is necessary only to cut reflective strips to approximately one-half the physical wavelength (preferred length) of a given radar and get it into the air. In addition to this method, the enemy in both the European Theater of Operations and in the Pacific used reflective

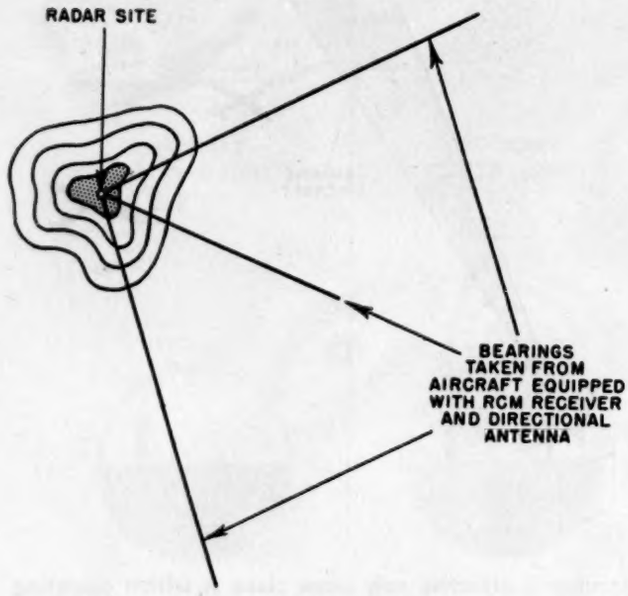


Jammer is effective only when plane is within operating cone or beamwidth of radar. When radar rotates to two planes at right, the radar indicator is affected only slightly by jamming aircraft which has moved out of cone.

devices consisting of variations of the corner reflector, a reflective device which returns an echo over a *band* of frequencies, and long strips of metalfoil, called rope by U. S. forces.

From the foregoing paragraphs it is apparent why the combatants chose mechanical countermeasures as their forte. Window could be cut to counter any radar simply from determination of the operating frequency. Electronic jammers, if not available, would require months to develop for a given job, if they could be developed at all within existing limits of technology. Why not a tunable jammer, similar to a tunable receiver? It is true that all jammers have some leeway for changing frequency but the limits are minute when compared with the vast range of World War II's operational radar — 40 megacycles per second (Japanese) to 10,000 megacycles per second in frequency.

While countermeasures definitely minimized the effectiveness of both Allied and Axis radars, there is no reason to conclude that the advantage did not almost always rest with the radar user. By skillful operation, the good 'scope man on a set always could gain *some* intelligence; i.e., if jamming were present in a certain area or azimuthal sector, so was the enemy. Mechanical countermeasures material could affect only the *area* in which it was dropped and its effect wore off as its concentration diminished, and its value to the user was lost once it



Radars on islands are more easily located than on large land masses. In addition to taking cross bearing, it usually is necessary to obtain low-level photographs.

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reached the ground. Electronic countermeasures could affect only a *sector* of the azimuth, never more than twice the effective operating beamwidth of the radar.

It should now be apparent that neither of the types of countermeasures discussed is the most effective means of dealing with enemy radar. The prime message of this article is that the best countermeasure is destruction, most logically accomplished by airborne armament. Refinements in technique and equipment may be expected in any future war, but the principles of destroying radars may well follow the pattern set during World War II, a specific example being the work of a U. S. Marine Corps torpedo bombing squadron, VMTB-232, operating from Okinawa north and south along the islands of the Ryukus.

TWO TBM TORPEDO BOMBERS were equipped with tunable receivers as described earlier and also with directional antennas, so that the direction as well as the nature of received enemy signals could be determined. Initial searches were made in connection with routine bombing runs. When the positive presence of a station and its approximate location were determined, a special ferreting flight was arranged with the specific objective of pinpointing the radar. (The problem is simpler in island topography than over a large land mass.) The radar inhabited island could be determined with relative ease.

Once the island was found, a combination of visual inspection to note the most likely terrain features for radar installations and a number of bearing fixes determined by the directional antenna often would yield a tentative location of the radar installation. Combining this intelligence with the findings of photo interpreters could result in definitely fixing the installation. If necessary, a strafing run was ordered over likely areas in order to obtain low-level photographs. These would bring back the pin-point locations almost essential to destruction by bombing.

The bombing run would include a receiver-equipped plane, and the last plane to drop would take photographs. If the radar signal went off the air and the photographs indicated hits on vital parts of the layout, it could be presumed that the radar equipment was decommissioned. Rechecks could be made daily to determine whether the equipment had been repaired and was again on the air.

Such activity was relatively not hazardous if the target radars were for air search, as the enemy did not supply strong antiaircraft defense for these installations. In the case of airfields, where the enemy had normal antiaircraft facilities, no such detailed destruction plans were carried out; instead radar installations were covered by the area type of bombing used against the entire field's targets.

Experience in World War II can serve only as a guide to what may be anticipated in any future renewal of warfare. Radar may be expected to be more diverse in its use; however, operating frequencies probably reached their practical ceiling in World War II. (Above 10,000 megacycles per second even a raindrop can become a reflector of considerable importance.) Installations may be expected to go underground but certain of the equipment *must* remain above ground level. For instance, the antenna can never go underground — although at microwave frequencies it may be no larger than a dishpan. Air search radar still may operate at lower frequencies, offering a bigger target, perhaps the size of a bed spring. In any eventuality, it is highly unlikely that any radar installation ever will exist which cannot be decommissioned with armament, but their intelligent design and operation may render them relatively safe from countermeasures.

THE very fact that nations maintain and develop radar is proof enough that great military good accrues from them. Radar is a new pair of eyes, as already accepted universally to be a fact, and to put out those eyes whether used for air search, in gunfire control, or missile control is a distinct advantage to the attacker. Mechanical and electronic countermeasures, both valuable, may be expected to have considerable effectiveness against today's and tomorrow's superior radars, but only destruction can permanently silence a radar. USMC

Breakaway Cockpit—

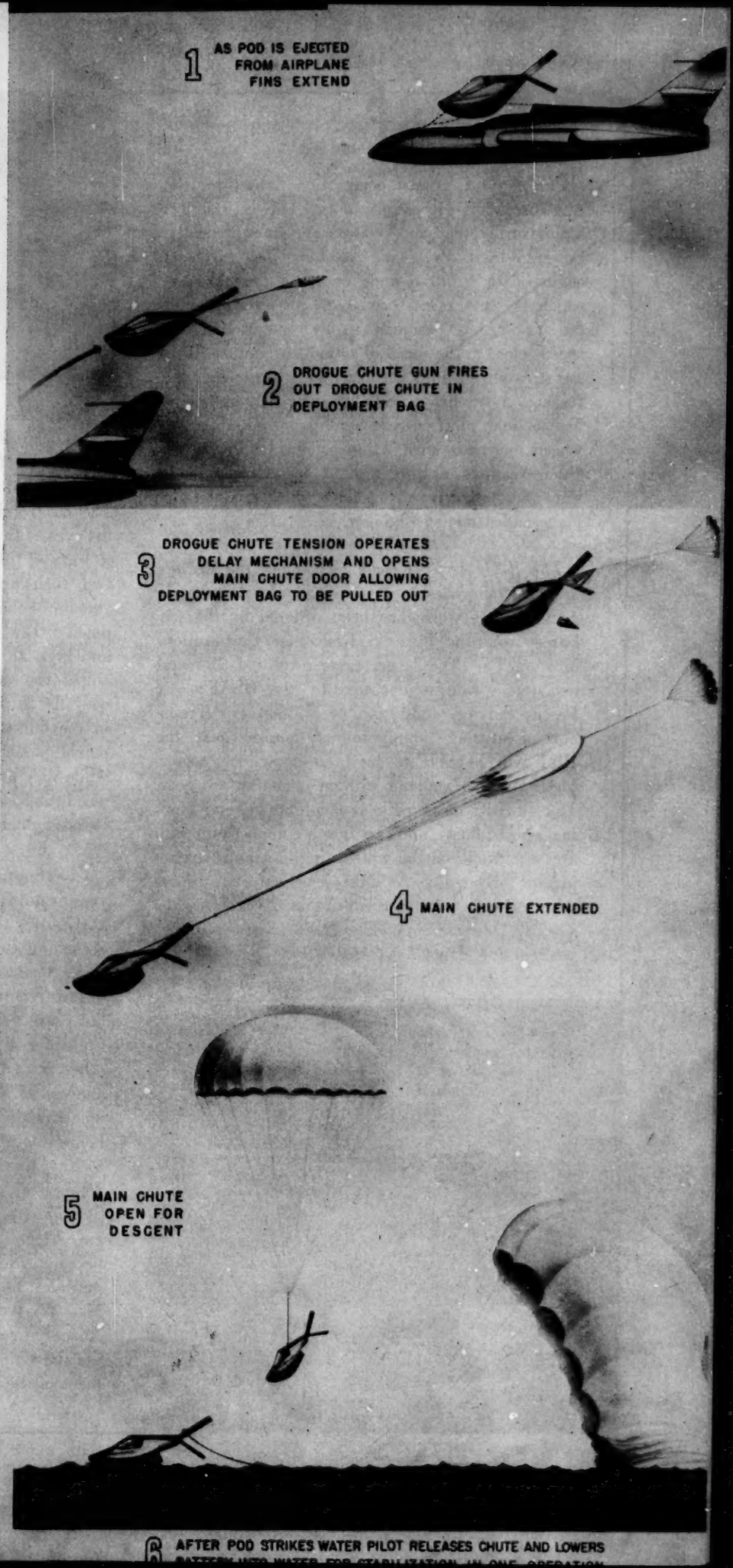
A breakway cockpit unit, designed to serve as a parachute-borne emergency escape vehicle for pilots of high-altitude, supersonic planes has been developed by the Navy Bureau of Aeronautics after almost two years of intensive research.

The pod-shaped unit, known as an "ejection cockpit capsule," is completely enclosed, and is pressurized and insulated. Riding in it, a pilot will be safely dropped from very high altitudes where the rarified atmosphere and extreme cold quickly destroy life.

The cockpit capsule is blown from the plane when the pilot pulls a release lever. Three stabilizing tail fins prevent the capsule from tumbling through the air, and a large parachute drops it gently to the earth. In addition, the cockpit unit floats in water and will serve as a boat for pilots forced down at sea. In case of crash landings at sea, the capsule is unhooked and floats away from the sinking aircraft.

The capsule also will carry survival gear, emergency rations, and radio equipment to direct rescue operations.

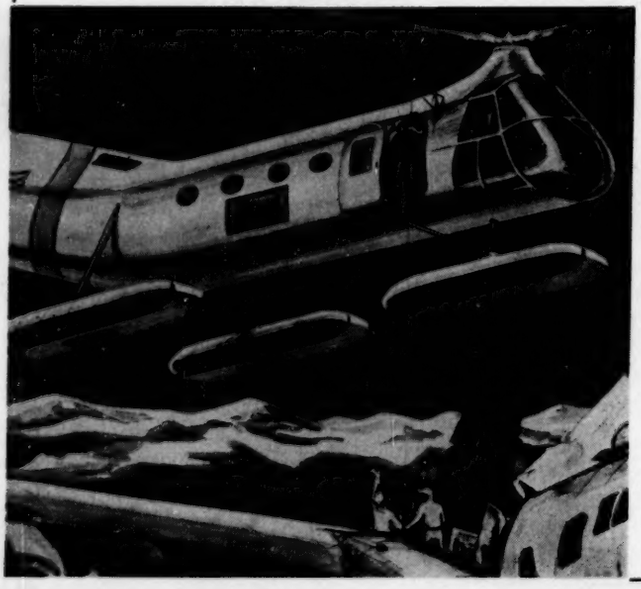
The capsule will be flight tested at the Naval Ordnance Test Station, Inyokern, California, late this year. Preliminary tests and evaluations have indicated that the vehicle is completely feasible and practical.



In Brief

The YF-92A, newest penetration fighter for the Air Force, has successfully completed its first test flight, North American Aviation announced recently. Powered by a Pratt and Whitney J-48 turbo-jet engine with 6,250 pounds of static dry thrust—which is further increased with an afterburner—the YF-92A is designed to fly operationally at speeds close to the speed of sound. Air intake ducts are streamlined flush with each side of the fighter's fuselage near the nose. The new jet fighter is heavier than most current fighters and requires two wheels on each strut of the main landing gear. Other features of the YF-92A include automatic slats and slotted type wing flaps which give the airplane added maneuverability.

The H-21 Arctic Rescue Helicopter, the world's first helicopter designed specifically for large scale Arctic rescue work, has been ordered by the Air Force from the Piasecki Helicopter Corporation, Morton, Pa. The large, tandem-rotored all-metal helicopters will be operated by the USAF's Air Rescue Service, a division of Military Air Transport. Featuring "omniphibious" landing gear, the H-21 will be able to land on snow, ice, water, tundra, marsh, or land without changing the gear. The specially designed gear combines regular landing wheels, floats, and skis into a compact unit with any one usable at the will of the pilot and depending on the terrain. As a troop personnel transport the H-21 has provision for up to 20 troop seats. The H-21 can accommodate 12 litter cases plus two medical attendants.





A new Navy flying laboratory, a specially modified Lockheed Constellation, is being readied to conduct extensive tests of the Navy's Airborne Early Warning radar equipment and procedures. The electronic equipment in the airplane extends the eyes of the fleet for many miles over the horizon to warn of the approach of enemy air units. One of two such aircraft purchased by the Navy, this version of the famed Constellation transport (designated PO1W) provides a defense against both low and high altitude planes. Since radar waves from ship-borne sets are limited in that they cannot "see" over the horizon, powerful radar antennae located in the bulky external radomes on this high-flying patrol plane detect the approach of enemy units while they are still many miles beyond the horizon, permitting early interception by the Navy's carrier-based fighters.

The First Marine Division's third annual Convention and Reunion will be held in Washington, D. C., over the week-end 4, 5, and 6 August, 1950, according to a recent announcement by the Division's chairman. Ample accommodations for out-of-town visitors are being arranged. The entertainment program will include a banquet, parade on Constitution Avenue, small unit reunions, and many other attractive features, details of which will be announced at a later date. Membership is open to all personnel, except those holding other than honorable discharges, who served with the division at any time between 7 December, 1941, and 20 June, 1947, the date the division left China. Gold Star parents of men who would be eligible if living may become honorary members upon request. Applications for membership or further information may be addressed to the Association Secretary, Maj Warren S. Sivertsen, USMCR, 39 Hampton Avenue, Crestwood, N. Y. Reservations for attending the Convention will be opened upon announcement of the complete program.



Volunteers, riding in a rocket-propelled sled developed for the Air Force by Northrop Aircraft, Inc., are now duplicating airplane crashes in an effort to provide greater flying safety. The experiments are being conducted at Edwards Air Force Base, Muroc, Calif. The tests already have given aeromedical science heretofore unobtainable information on just how much of the terrific decelerative force encountered in a crash the human body can safely withstand. In the Air Force experiments, volunteers ride the "human decelerator" sled which is guided by railway tracks and propelled by solid fuel rockets into a series of mechanical brakes. The brakes decelerate the sled with a force equivalent to that experienced in actual crash landings. To date the volunteers have completed a series of decelerative tests in gradual increases up to 35 Gs.

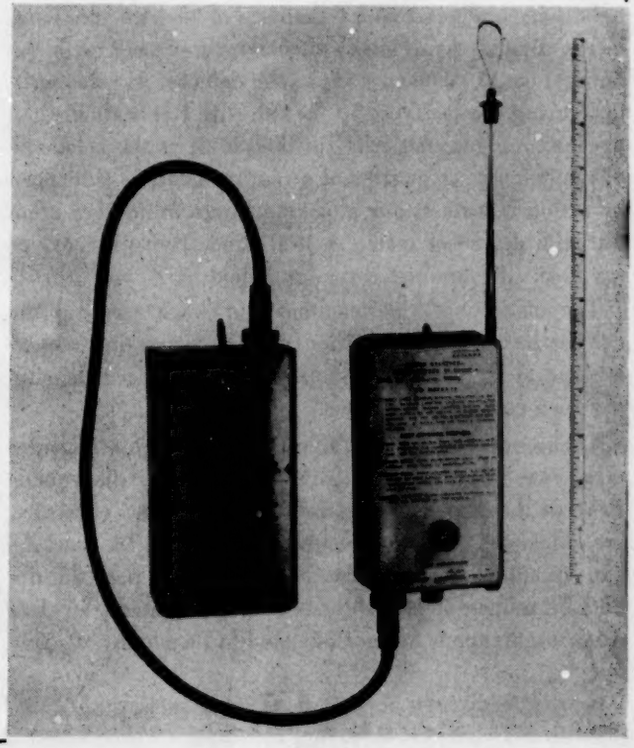
Six destroyer-type ships, four of which will be redeployed from the Atlantic Fleet, are to be organized into Escort Division ONE, based at Pearl Harbor, Hawaii, the Department of the Navy announced recently. Five of the ships are re-activated destroyers converted for anti-submarine duty and one is a new "killer" type destroyer.

Two fleet-type submarines have been ordered by the Navy to the Philadelphia Naval Shipyard for conversion, overhaul, and refitting prior to transfer overseas under terms of the Mutual Defense Assistance Program. The submarines are the *Blower*, now at San Diego, Calif., and the *Bumper*, which has been at Pearl Harbor.

The escort carrier USS *Sicily* (CVE 118), now being overhauled at the Naval Shipyard, Boston, will be redeployed from the Atlantic Fleet to the Pacific Fleet in mid-April. The move will balance the Navy's active escort carrier strength between the two fleets. Including the *Sicily*, three escort carriers are now in the Atlantic Fleet, and one, the USS *Badoeng Strait* (CVE 116), in the Pacific Fleet.

The Second Marine Division Association was recently formed in Washington, D. C., for the purpose of banding together in fellowship those who have honorably served in the Second Marine Division and to preserve the bond of comradeship between those in the service and those who have returned to civilian life. Men who served in or with the Second Division during the war years are eligible for membership in this organization. Plans are being made to hold an Association reunion sometime in 1950. Interested veterans are requested to send their name, address, and yearly dues of two dollars to the Secretary-Treasurer, Second Marine Division Association, Headquarters, U. S. Marine Corps, Washington 25, D. C.

A new battery-operated radio set, the URC-4, has been developed by the Air Materiel Command's Communication and Navigation Laboratory. Not much larger than a "K ration," the URC-4 will replace the buxom "Gibson Girl" radio as a friend of USAF fliers. The URC-4 is being produced at the Los Angeles plant of the Hoffman Radio Corporation. Air Force personnel say Hoffman engineers are responsible for much of the research and labor which preceded the final design. The mercury-type battery will not deteriorate with age or lack of use, while the entire set is impervious to salt water and is designed to withstand temperatures ranging from 160 degrees F. to —50 degrees F. The tiny radio can transmit as far as 80 miles.



Machine Guns Are Offensive Weapons

By LtCol Ronald R. Van Stockum

"Special Orders No. 1 Section 13.3.18 (13 March 1918)

(1) This position will be held, and the section will remain here until relieved.

(2) The enemy cannot be allowed to interfere with this section.

(3) If this section cannot remain here alive, it will remain here dead, but in any case it will remain here.

(4) Should any man through shell shock or other cause attempt to surrender, he will remain here dead.

(5) Finally, the position, as stated, will be held.

/s/ F. P. BETHUNE, Lt.,
o/c No. 1 section"[1]

FROM THE CONTENT OF THE ORDERS QUOTED ABOVE, it is quite obvious that Lt Bethune of the Machine Gun Corps, British Army was sufficiently impressed with the importance of machine guns in the defense. He was writing during the last year of World War I at a time when the machine gun had fully justified itself as the backbone of the defense. A quarter of a century later, as evidenced by action reports of our attacking forces in another great war, the defensive machine gun, fired from pill box, or fox hole, still dominated the battlefield.

The efficacy of the machine gun when used in the defense has not been questioned in 30 years; its employment in the offense, on the other hand, has been the subject of a continuing debate.

Today, the "K" series Tables of Organization provides three less (24) machine gun squads than rifle squads (27) to the Marine Corps infantry battalion; currently, each Army rifle platoon contains organically a machine gun squad. Obviously, "the devil's watering pot" did not find its eclipse at Hiroshima. And it is equally evident that these weapons are not intended to be employed solely in the defense by a nation whose history records the greatest offensive of all time.

The proportion of light to heavy machine guns in our armed forces has recently been increased considerably, reflecting a trend to the more mobile gun which can accompany riflemen in the attack.

The machine gun platoon of the Marine Corps battalion weapons company, however, is a unit armed with the heavy gun alone. How can this platoon employ its relatively cumbersome weapons in an offensive action?

DISREGARDING the experimental use of hopper-fed bows and multiple-mounted muskets, it can be stated that the rapid-fire weapon we today call the machine gun stems from the Gatling Gun and similar weapons developed during the early 1860s. The Federal Government did not officially recognize the machine gun during the Civil War, but, nevertheless, permitted employees of the Gatling Gun Company to operate it personally in the field of battle by way of demonstration.[2] It is doubtful if super salesmen, even in this day of mass production and mass distribution, have ever made a more gallant effort to sell their product.

It is generally agreed, at least west of the Iron Curtain, that the French *Mitrailleuse* was the first machine gun to be used effectively in battle. This weapon, which has given its name to weapons of its type in the French language, consisted of a cluster of 25-37 manually-rotated barrels mounted on a cumbersome, wheeled carriage. Its rate of fire was approximately 125 rounds per minute and its effective range 500 yards. Handicapped by being assigned to the artillery and to counter-battery missions for which it was obviously unsuited, it nevertheless established itself at the Battle of Gravelotte, August 18th, 1870, by breaking up a Prussian charge with deadly effect.[3] After the Franco-Prussian War, the machine gun, prin-

[1] *Machine Guns—Their History and Tactical Employment* by LtCol G. S. Hutchinson, DSO, MC, pp. 301, 2.

[2] *Ibid.*, p. 8.

[3] *Tactical Organization and Uses of Machine Guns in the Field*, 1stLt John H. Parker, 13th Infantry, 1899; pp. 26, 7.

cipally because of the stigma of association with the vanquished, was slow to gain recognition. It was not until World War I that it reached the heights of effectiveness. Attack without frightful casualties became possible only when defensive machine guns had been first put out of action.



During World War I, British machine guns were organized into battalions of an *elite* machine gun corps and American guns into separate battalions which could be broken down for assignment to various rifle units. In the last war machine gun platoons formed the major component of battalion (heavy) weapons companies in Marine and Army rifle battalions. In early 1944, perhaps as the result of habitual attachment of machine guns in jungle fighting, this company in the Marine Corps was dissolved and its machine guns transferred to the rifle companies, giving each a machine gun platoon of six squads. In 1949 the "K" series reconstituted the weapons company, assigning it one machine gun platoon, a mortar platoon, and an anti-tank assault platoon.

Figure 1 shows the organization of the heavy machine gun platoon; it is conventional in all respects except for the provision of three two-gun sections instead of the usual two.

Figure 1

ORGANIZATION OF THE HEAVY MACHINE GUN PLATOON IN THE MARINE CORPS

MACHINE GUN PLAT
1 - 55

PLAT HQ
1 - 4

MG SEC 0 - 17	MG SEC 0 - 17	MG SEC 0 - 17
SEC HQ 0 - 1 GUN, Machine, Cal. .30, Browning, M1917A1 (HMG)	MG SQUAD 0 - 8 —6	MG SQUAD 0 - 8

Here it appears that the trend in artillery toward the six-gun battery with attendant decrease in overhead and increase in ammunition supply problems has exerted its influence on the infantry. Latest Army organization, while whittling machine gun platoons to one in the heavy weapons company, retains the four-squad organization augmented by four reserve guns.

A breakdown to platoons of the seven quarter-ton trucks and trailers and four SCR-536 radios provided the weapons company is not available. It is believed, however, that mobility and control of the machine gun platoon dictate the assignment to it of a truck and trailer per section and one radio.

No study of the tactical employment of the heavy machine gun platoon can be made independent of consideration of the light machine gun platoon. It must be remembered that each of the rifle companies has such a platoon, identical in organization to its "big brother" in the weapons company and equipped with six light guns (Browning M1919A4).

Furthermore, the capabilities and limitations of these two weapons must be considered; these bear a direct relationship to the differences in tripod and barrel. The steadier mount and water-cooled barrel give the heavy gun greater effective range, and more accurate, more rapid, and more sustained fire power. These advantages are compensated for by greater vulnerability and less mobility. *Figure 2* outlines the characteristics that principally differentiate these two weapons.

Figure 2

COMPARISON OF HMG AND LMG

Browning MG M1917A1 (HMG)	CHARACTERISTICS	Browning MG M1919A4 (LMG)
53.2	Tripod Wt (Pounds)	14
poor	Mobility	good
excellent	Stability	good
small	Dispersion	large
1200	Effective Range (Yds)	
water	Cooling System	600
rapid 250	Rates of Fire (RPM)	air
medium 125		
slow 60		150 rapid
rapid 2	Sustained Fire (Min)	75 medium
medium indef.		40 slow
mils 100	Maximum Target Width	3 rapid
	VULNERABILITY	30 medium
great	Cooling System	50 mils
high	Silhouette	negligible
	MISSIONS	low
highly suitable	Final Protective Line	unsuitable
suitable	Overhead Fire	unsuitable

From this comparison we can infer that the heavy gun is better able to deliver fires close to friendly troops and

that the light gun is better able to accompany rifle troops.

Tactical Employment in the Attack

With the foregoing qualifications in mind, let us consider the tactical employment of the heavy machine gun platoon in the attack.

> *Machine guns affect the outcome of battle by firepower alone. Guns that have not fired have not attacked, no matter how many times they have been placed in position.*[4]

How consistently this precept has been violated through the years is revealed by an examination of machine gun tactics in two wars. In discussing machine guns at Soissons, July 18, 1918, Maj (later LtGen) Walter Short stated:

> *These guns were practically all placed in the first wave of the company to which attached. Almost the only order given to the machine gunners was for them to take their places in certain waves. . . . They were not interested in finding opportunities for shooting their guns nearly so much as they were in maintaining their positions. The results were most serious.*[5]



A search for examples of proper offensive use of machine guns in World War II is most unremunerative. Small unit actions are frequently punctuated with reference to machine guns, but invariably to those employed by the enemy on defense. Typical of the glaring examples of ineffectual use are the following:

> "machine guns were held ready in the draw on call," "half a platoon from Company H surrendered . . ." when led into a trap by the Germans, "The company commander . . . directed that . . . one section of heavies from Company M should move forward with the advancing riflemen."[6]

LtGen Short, writing in 1922, listed as suitable tasks for a machine gun company of an assault battalion the following:

1. To support the assaulting troops.
2. To protect the flanks of the attack.
3. To occupy an interval in the line.
4. To assist in consolidating the captured ground.
5. To assist in resuming the attack.[7]

The experiences of World War II have not drastically altered this concept; using it as a framework, we shall examine the role that the heavy machine gun can play in the attack today.

To Support the Assaulting Troops

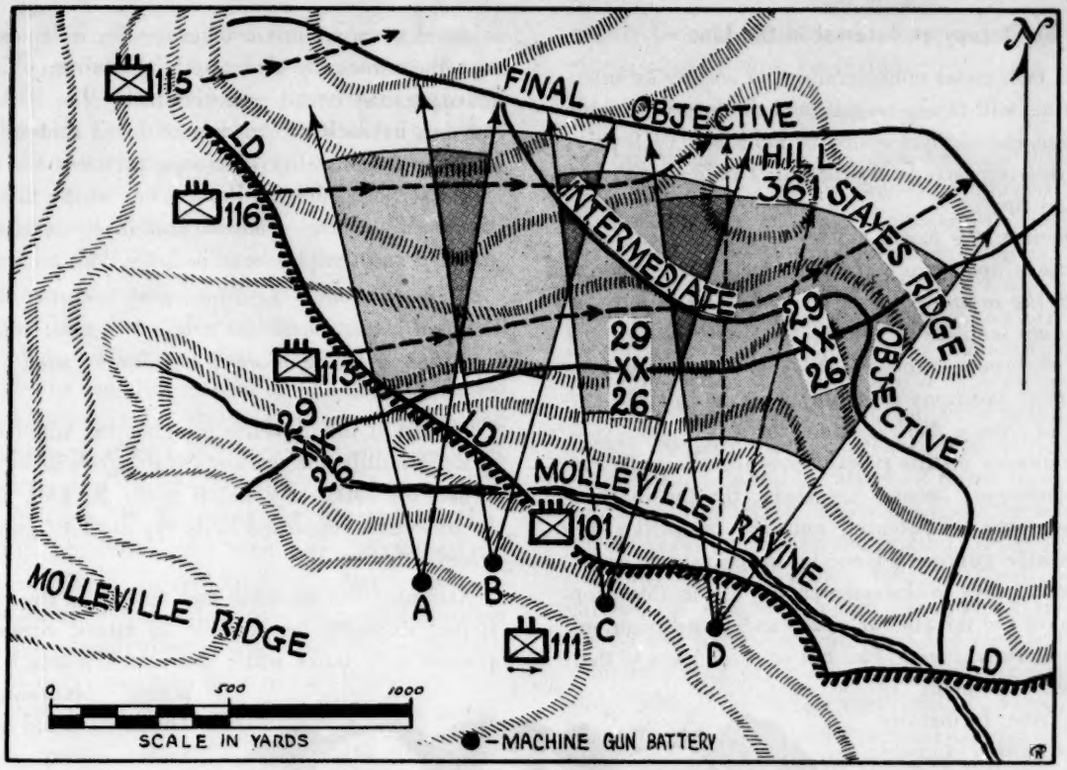
Fires *to support the assaulting troops* may be divided into three classes: overhead fires, flanking fires, and fires between gaps in the leading echelon. The latter are considered unsuitable for delivery by *heavy* machine guns because they require frequent displacements to exposed positions to take advantage of gaps which may be ever changing as the infantry adapts its formation to situation and terrain.

Overhead supporting fires can be delivered with relative safety to supported troops provided the gunner's and leader's rules are correctly applied. The heavy machine gun, with its securely clamped tripod, has the necessary range, accuracy, and dispersion to render it most effective in this role. Trajectory and terrain are the factors which determine the feasibility of delivery of overhead fires; to advance with impunity, riflemen pass below the cone of dispersion. Three conditions will render this practicable: support at sufficient range (in excess of 1000 yards) so that the trajectory itself will provide clearance; attack below the line gun-target, as in movement across a compartment or below supporting fires from upper stories of buildings; advance under fires deliberately placed *over* the enemy positions to allow approach of friendly troops and to give the enemy that "pinned-down" feeling.

Even when the terrain profile is ideal for the delivery of overhead fires, consideration must be given to the practicability of occupying direct fire positions in the face of the enemy without suffering ruinous casualties. Some protection will be gained by the occupation of defiladed positions. (Indirect fire will usually be impracticable because of the relatively inaccurate fire control instruments available and the lack of communications equipment for the establishment of a distant observation post). Occupation of positions has become an increasingly difficult problem with the advent of the proximity fuze. It may be advisable in the future to prepare and occupy covered positions at night before an attack commences. The emphasis in the years ahead may be upon increased dispersion of the infantry on the field of battle — even decrease in its relative numbers — and increase in its firepower, organic and supporting. Thus, the heavy machine gun, with its tremendous fire power provided by the exposure of a two-man front, may assume increasing importance.

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[4] *Infantry in Battle*, Infantry Journal Press, 1939; p. 239.
[5] *Employment of Machine Guns*, Maj Walter Short, 1922; p. 33.
[6] *Small Unit Actions*, Historical Division, Department of the Army, 1946, pp. 84, 155.
[7] *Short*, p. 33.



Etrayes Ridge

We now come to *flanking fires* which at this time we shall discuss as fires preparatory to an attack laid down in advance of riflemen from positions on the flanks. Flanking fires will be utilized whenever possible for the reasons that they are often enfilade, i.e., correspond in beaten zone with the longer axis of the enemy, and can usually be delivered closer in advance of the attacking echelon.

An excellent example of this type of support is provided by the capture of Etrayes Ridge on October 23, 1918 by the U. S. 29th Division. This division, having crossed the Meuse, captured Molleville Ridge where the attack came to a standstill. The American position ran roughly parallel to that of the enemy on Etrayes Ridge across Molleville Ravine. See map.

In the light of peculiarities of the terrain which rendered feasible the employment of flanking machine gun fire from Molleville Ridge, Maj (later Senator from Maryland) Millard E. Tydings was directed to work out the details of an interlocking barrage paralleling the line of advance. Maj Tydings conceived a plan whereby four machine gun batteries of four to six guns each fired successive interlocking zones of fire 125 meters in front of the advancing troops synchronized to an infantry rate of advance of 100 meters in 10 minutes. Execution of this plan was coupled with successive withdrawal of each battery after executing its mission. The 111th Machine Gun Battalion fired approximately 300,000 rounds during this rolling barrage. Etrayes Ridge was captured along with about 50 enemy machine guns at the cost of a few casualties.[8] In this historical example, appreciation of the terrain coupled with machine-like execution of a fire plan had provided the fire support needed for an attack to succeed.

Flanking fires in support of an attack may also be possible from a salient which has been pushed into enemy lines. If such a condition does not exist at the beginning of an attack, it will frequently develop during the attack as unequal resistance and terrain enable one unit to outdistance adjacent units. Thus, an excellent opportunity is afforded for the displacement of machine guns to advanced positions from which their flanking fires can assist the advance of units on the flank.

To Protect the Flanks

A salient, however, is a two-edged sword. A unit outdistancing its neighbors not only threatens the enemy with flanking fires, but also exposes its own flank to fire and to counterattack. And so in this situation, we find machine guns performing their second mission, *to protect the flanks of the attack.* In this role their effectiveness approaches that of the defensive, for they are not restricted by troops to their front and can be employed so as to obtain the maximum effect from grazing fires. Often it may be possible to guard a threatened flank by machine guns alone, freeing the reserve company for employment elsewhere.

[8] *Infantry Journal*, August 1927, pp. 133, 7. Also *Infantry in Battle*, pp. 73, 6.

To Occupy an Interval in the Line

The third task under consideration, *to occupy an interval in the line*, will rarely be assigned the heavy machine gun. German instructions issued in February 1918 prior to their Spring offensive in World War I indicate German policy at that time:

> *In principle, the heavy machine guns are employed in sections apart from the infantry. Their place is only in the infantry lines when the latter require an immediate increase in the intensity of their fire and when the cooperation of the heavy machine guns from their positions in depth (overhead or through gaps) or from a flank is impossible.*[9]

The disadvantages of this type of fire are obvious. Frequent displacements become necessary, for the machine gun on the move is potential and not immediate fire power. Machine gunners advancing in the assault waves, carrying their heavy, awkward weapon, are unable properly to exploit the terrain for cover and firing positions. Hazards to gun and men are all out of proportion to their effectiveness. By being restricted to rifle formations, the machine gunner is unable to perform the duties set forth so adequately over 50 years ago:

> *"The gun commander must keep his eyes open, he must watch the enemy and watch the ground and watch his own force too; he must choose his position quick, and travel quick, and decide quick."*[10]



Special circumstances, however, may exist which will permit efficacious fires from heavy machine guns in the front lines in an offensive operation. They all have this in common: riflemen are not to advance ahead of the machine guns, at least in the early stages of the attack. These circumstances include *attack by fire alone*, by *fire in support of tanks*, and the *holding action in a defensive-offensive engagement.*

Opportunity for attack by fire alone might be afforded in a situation such as the following: Approximately half of the battalion zone offers satisfactory approaches to the enemy position; the other half is flat, bare ground crisscrossed by enemy machine gun fires which preclude an infantry advance without heavy casualties.

The commander's decision may be to attack in column of companies where the terrain favors his troops and to attack by machine gun fire alone where the terrain favors the enemy. In this fashion the machine gun platoon, reinforced by a minimum of protecting riflemen, will support the attack by fire on the battalion objective and guard against enemy counterattack. The battalion commander, by such a plan, has achieved economy of force, enabling the massing of troops in the main effort. We find that 1stLt John H. Parker, one of the first advocates of the use of the machine gun in the attack, had envisioned such employment in 1899.[11]

> *"To economize the infantry by securing the front in conjunction with the artillery against counterattack, thus enabling more troops to be used for turning movements."*

Seizure of the objective assigned the rifle troops might in itself nullify the terrain advantage held by the enemy in half the battalion zone; if not, a flanking attack down the objective, supported by heavy machine gun fire might achieve this result.

Assuming the situation and terrain of the previous example, it might be possible to attack across the bare ground with tanks while the infantry attack progresses across favorable ground. The tanks could be protected from enemy tank-hunter teams by heavy machine gun fire from the line of departure or commanding ground to the rear. Of course, such employment of tanks would presuppose the absence of enemy AT weapons or their neutralization by machine guns and other supporting weapons during the attack.

Another example of front-line employment can be found in a defensive-offensive action such as the defense of a river line. To thin out the front line defenses in order to allow utilization of the majority of rifle troops with the mobile reserve, machine guns might hold the outpost line, fighting a delaying action until the propitious moment had arrived for a counterattack in decisive force.

Consolidating the Captured Ground

It is, however, upon the capture of an objective, that the offensive use of machine guns reaches the optimum. In consolidating the captured ground, they occupy front-line firing positions approaching in nature those of the defense. Protecting the gains made while the assaulting troops reorganize for the defense or continuation of the attack, machine guns may truly be described as "the claws of the offense."

Companies must displace their light guns forward immediately upon seizure of their objectives to provide protection and facilitate their early use in the continua-

[9] *Short*, p. 34.
[10] *Parker*, p. 138.
[11] *Ibid.*, p. 149.

tion of the attack. By the same token, heavy machine guns must be moved to the battalion objective as soon as positions favorable for their use have been captured. When a platoon's fires are masked, it is usually wise to displace it as a unit to the objective so that it can rapidly add its fires to those of the attacking echelon. Sometimes displacement can be effected when only a toehold has been secured on the objective by a small unit of infantry. Heavy machine guns will be in a position to add their weight to that of a band of riflemen determined to hold in the face of counterattack; also, they may, by flanking fires, provide the essential margin of fire support needed by lagging adjacent units. Machine guns must be pushed forward, necessary risks being accepted, whenever their enormous fire-power can be properly exploited.

To Assist in Resuming the Attack

After initial objectives have been taken, machine guns are employed to assist in resuming the attack, thus completing the offensive cycle. This mission is accomplished by the methods already discussed and usually involves the movement of heavy machine guns to supplementary positions from those they have occupied during the consolidation phase.

Command and Control

Now that each rifle company commander has at his immediate disposal three sections of light machine guns, a number equal to that of the heavies in the entire battalion, it is difficult to envision the attachment of heavy machine guns in the attack. At best, riflemen and machine gunners operate under widely divergent principles, one creeping slowly and steadily forward, the other advancing by long bounds. A rifle company commander has his hands full employing three rifle platoons, a large machine gun platoon, a mortar section and supporting weapons. He might be tempted to attach heavies to his light machine gun platoon, creating an awkward, heterogeneous unit; or he might assign them a place in the formation and promptly forget them.

The heavy machine gun platoon should be employed under the control of its platoon leader, an officer trained to recognize opportunities for effective use of this weapon.

> *Give him free rein, tell him as much as is advisable of the plan of battle, and keep him posted; then expect him to do the rest.*[12]

Whenever possible the platoon should operate as a unit, so that the saturating effect of massed fires can be realized. Even if conditions demand employment over a wide area, control should still rest with the platoon leader; he can use the flexibility so obtained to utilize terrain effectively and to deliver fires expeditiously at the time and place needed. The temptation to split the machine gun platoon into attached or supporting elements merely because its sections correspond in number to the rifle companies must be avoided.

Displacement

AFTER a mission has been assigned the platoon, as much leeway as possible should be allowed the platoon in effecting displacements necessary to the continuous performance of such mission. The battalion commander will be fully occupied during the attack and should delegate the authority to order displacements to the weapons company commander if not to the platoon leader himself. If a quarter-ton truck is assigned each section, sufficient mobility will be afforded the platoon to enable it to move rapidly to meet hostile threats or to exploit favorable developments during the attack. Utilization of vehicles, of course, will be largely dependent upon the activity of the enemy in the air and on the ground. However, the heavy machine gun is a killing load by hand, especially if carried for distances longer than 500 yards. For this reason and for reasons of speed and ammunition supply, vehicles should carry weapons to off-carrier positions as close behind the firing positions as practicable. Once loads have been deposited, employment of vehicles must be continual in order to replenish ammunition and to effect further displacements.

Conclusions

Considerations of the offensive uses of heavy machine guns leads to the following conclusions:

1. In defense the heavy machine gun has proven itself; in offense, the maximum has never been obtained from this gun.
2. The advent of the atomic age has not greatly affected the position of prominence occupied by the machine gun during the last 30 years.
3. The machine gun as a weapon for indirect fire is a thing of the past; other weapons can better be used to accomplish this mission.
4. Control of the machine gun should be exercised through the platoon leader and the platoon should be handled as a unit in so far as practicable, even if sections become widely separated.
5. Adequate transportation should be assigned to allow mobility.
6. And finally, there will nearly always be occasions in the attack when one or more methods of support by heavy machine guns will be feasible; they must be recognized so that potential fire power will become actual fire power. The machine gun commander *must not sacrifice men or guns unnecessarily, but no considerations of safety must prevent him from making the most effective use of them when the vital moment is presented.*[13]

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[12] *Ibid.*, p. 169.

[13] *Ibid.*, pp. 124, 5.

Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Science and War . . .

MODERN ARMS AND FREE MEN—Vannevar Bush, 264 pages, indexed. New York: Simon & Schuster. $3.50

As late as 1940, a book with the scope of *Modern Arms and Free Men* would probably have been considered impertinent by the military leaders of this country. Even at that date, in a nation awkwardly tacking toward war, military men held that weapons of war should be designed and developed by those who would use them. This was an idea with a certain basis of logic — after all, who but the soldier knows what tools he needs? — but it was also an idea with a serious weakness: science had dealt itself into the game of war, and the soldier is very seldom a scientist.

But it was in 1940 that Dr Vannevar Bush was appointed by President Roosevelt to be chairman of the newly created National Defense Research Committee. This was the beginning of a new deal whereby, for the first time in history, scientists became full and responsible partners in the conduct of war. It was about time. The implications of scientific warfare had been present at the end of World War I, but they had not been apparent to anyone who cared to do anything about them. Almost every technical device which appeared in World War II had existed and in many cases had been *tested* in 1918. But, as Dr Bush says ". . . lethargy gripped the technique of warfare between the First and Second World Wars. Those who were familiar with modern scientific trends did not think of war, while those who were thinking of war did not understand the trends." So it was, during this period, that military men, more often than not resistant to change, revolved around their obsolescent weapons, modifying a bit here, experimenting a little there, cautiously moving into new fields when it appeared that no conventions would be outraged: a semi-automatic rifle was finally adopted after 19 years of experimenting, backing, and filling; wrap leggings were discarded and a canvas version, not unlike those used in the Spanish-American War, was substituted; a new steel helmet was developed, and turned out to be not too different from the one used by the Germans since 1916; turrets were moved up on top of tanks, and pneumatic tires appeared on artillery pieces; greatly improved vehicles came into use, but because of industrial, not military, demands. And this was about all, really, with a few exceptions. In the field of aeronautics, unconventional arrangements between military airmen and private industry produced many advances, and (despite, Dr Bush says, "solid brass and hazards to careers") development progressed on two extremely important and secret projects — radar and sonar. (Marines may feel that Dr Bush, in *his* survey of this hiatus of military development, might properly have noted an exception having to do with the devolpment of amphibious tactics and equipment. Within the limitations of available funds and technical assistance, the groundwork for all amphibious devices now in existence had been laid long before 1940.)

This, according to Dr Bush, was the situation when the scientists came to the rescue. Thirty thousand strong before the end of World War II, they might be pictured collectively and symbolically as a sort of white-collar Lone Ranger, appearing suddenly on a distant rise, reflectively chewing an unlit pipe as he surveys the chaotic scene in the valley below, and then whipping out his trusty Bunsen burners as he races down to deal with the circling redskins (in this case, symbolically portraying the hide-bound military). Now, according to Dr Bush again, it was almost that way. It was no cinch, he says, to sell the generals and admirals on the new weapons which the scientists knew were needed to win the war. It is on this theme that Dr Bush spends considerable time in his book, and it is on this theme that many military readers may part company with him. It is almost incredible that he and his co-workers should have experienced *so* much trouble convincing the military of the importance of scientific weapons, yet he was there and he should know. And it may be sometimes hard to accept his conclusions regarding modern and future weapons, especially when those conclusions are at variance with experience and principles; yet if he doesn't know, who does? It is his unquestioned authority, his certainty of knowledge, that makes *Modern Arms and Free Men* required reading for the student of the profession of arms.

Actually, the marine officer who has kept up his professional reading will find little in this book's discussion of weapons and techniques that is new or surprising. He will find, in fact, that most of what Dr Bush has to say has been said before, and said in some cases by people who knew what they were talking about. The chapter

titles reveal the general outline of the author's ideas on war: *The Technical War on Land, On the Surface of the Sea, War in the Air, Under the Sea, The Guided Missile, The Atomic Bomb,* etc. Each topic is discussed methodically, and where the subject demands it, with a firm grasp of tactical principles. This last is particularly evident in the discussion of the future of ground combat, where, incidentally, Dr Bush finds that the scales may be tipping in favor of the defense. He feels that such weapons as the VT fuze, new types of mines, anti-tank rockets, and the recoilless gun, all add up to make the tank-infantry attack pretty much a thing of the past. He dismisses the airborne-assault as "an aid to a breakthrough and apparently not much else." He does not speak so lightly of amphibious warfare, and, by the way, in speaking of it at all shows himself to be on the least familiar ground of any covered in the book.

Including the customary swipe at Tarawa, Dr Bush gives amphibious warfare a fast, rather disconnected, and quite inconclusive four pages. He chooses to mention the rocket ship as "one of the most important improvements" in the amphibious assault, digresses somewhat to speak of the development of the DUKW — successfully developed, of course, "in spite of general indifference or preoccupation elsewhere in the services." He skips over or ignores practically all the really important technical advances in amphibious warfare and arrives at the remarkable conclusion that "for a landing on hostile shores, the difficulties of the landing itself are superposed upon those of penetrating a prepared line and exploiting the breakthrough." Don't tell *that* to the Marines, Dr Bush!

But, perhaps by way of compensation, the eminent scientist comes up with some ideas on war in the air which should make B-36 advocates choke on their flight pay. Generally, he feels that the bomber fleets at any attainable altitude will find tough going against an enemy equipped with effective ground radar and jet fighters armed with proximity fuzed air-to-air rockets or guided missiles. Conceding that the antiaircraft gun as we know it seems to be pushing its ultimate limit, he nevertheless discounts conventional high altitude bombing, and finds further that, even with guided or "homing" bombs, drops from very high altitudes are not likely to be very effective against land targets. Here again, as on land and sea, he finds that the defense may be in the ascendancy.

Under the sea, it's a different story. Here, Dr Bush thinks that the attacker is likely to pick up the marbles unless we can develop an effective defense against the new types of submarines. Says Dr Bush: "We have twice entered war while underestimating the power of the submarine, and twice the outcome has been in doubt. We must not do it again." At present, it seems apparent — both from this book and various other sources — that we in this country have not yet found the answer to the high-speed schnorkel submarine or the long-range torpedo. The answer should be — and probably is — high on the priority list of navy projects.

The reader who knows Dr Bush by reputation is likely to turn first to the chapters on guided missiles and the atom bomb. If he does, he will be disappointed, for these two chapters are curiously flat, even stale, as far as their informative value is concerned. This is understandable, of course: both subjects have been processed in print to tune of millions of words. Unfortunately, the mere fact of Dr Bush's superior qualifications does not compensate for his lack of new material. Security restrictions apply, of course, but any way you read it, it's familiar stuff. It is comforting, nevertheless, to read these words: "...the specter of great fleets of bombers, substantially immune to methods of defense, destroying great cities at will by atomic bombs, is a specter only. There is defense against the atomic bomb. It is the sort of defense used against any other type of bomb. . . .' '

To continue stringing together Dr Bush's speculations on the prospects of future war would not be in keeping with the purpose of this review. In fact the single best commentary on such speculations has been placed at the head of Chapter I of the book, a quote from a statement by James V. Forrestal: "There are many sciences with which war is concerned, but war is not such a science itself, and any forecast for the indefinite future presupposes a certitude that is not possible." War is *not* a science, despite the influence of science upon it. The defense may be ascendant, yet at critical times the weapons which make it so may not be properly manned, or maintained, or the ammunition supply may fail, and so the attacker will advance over them. Or, the defenses may be effectively manned and *still* be overrun by such unscientific forces as superior numbers, strong will, and guts. On paper, it is easy to match offensive and defensive capabilities one against the other and come up with a winner. But when it's done for the record, the imponderable factors may make the calculators look foolish. Dr Bush in his book, is much concerned with the *cost* — in dollars and resources — of war. He should be, and so should we all. He points out that it is entirely possible that this country could go bankrupt itself in an arms race. What would that mean? Devaluation of the dollar? No new car or deep freezer or television set for John Citizen? No money for much-needed imports? All of this and much more, no doubt. But what would it mean in another country where J. Citizen has never had or dreamed of having a new car, deep freezer, or television; where the dollar (or ruble) is worth just what the government chooses to make it worth, and not worth much in any case beyond the border; where necessary imports come from satellites or easy marks eager to please? Just how much does such a country worry about the *cost* of war — either in dollars, resources, or lives? Here is where the imponderable comes in.

As indicated earlier, this reviewer doubts that the average officer will be startled, elated, depressed, or cut in on any secrets by reading *Modern Arms and Free Men*. It is simply not that kind of book. Further, the average officer may be slightly irked by Dr Bush's generally low opinion of the military's ability to take care of itself in a scientific world. And this same average officer, or any other reader, for that matter, may find it easy to put this book down a good many times before it is finally finished: Dr Bush's prose tends to be turgid. But there is one thought here which, carefully considered, should stay with *any* reader. If there is a really comforting thought in the book, this is it: "A new great war would not end the progress of civilization, even in the days of the risen atom, even with the threat of disease marshaled for conquest. . . . A great war would be terrible; it would not utterly destroy. It need not destroy democracy, for the organization of free men tends to become refined under stress, whether the stress be hot or cold, and meets its greatest hazards when the times are soft. This has always been true since men have begun to learn the strength of their freedom."

Although any identification of Vannevar Bush in this review is probably superfluous, the following biographical facts are at least pertinent: Presently president of Carnegie Institute, has been dean of engineering at Massachusetts Institute of Technology, chairman of the National Advisory Committee on Aeronautics, chairman of the National Defense Research Committee and director of the same activity when it was enlarged into the Office of Scientific Research and Development. Finally, he was director of the Advisory Committee on Uranium — out of which grew the Manhattan District project. HS

Explaining England . . .

NO CAUSE FOR ALARM — Virginia Cowles. 326 pages, indexed. New York: Harper & Bros. $3.75

During the war, prior to the invasion of England by American troops, the War Department set out to produce a very complete technical manual on the organization of the British military forces. In the course of translating this laudable project to the written word, however, the scribes became aware of the undeniable fact that American and English, while perhaps similar languages, are not necessarily synonymous. Once this reality was recognized, the bars were down. The manual, as finally published, contained not only the information on the British military services, but also sections dealing with the differences in the English and American languages, a glossary of common terms, information about the British system of government, local traditions and customs, the monetary system employed (that takes some explaining), as well as divers other things valuable to know if a chap is venturing for the first time into the United Kingdom.

No Cause for Alarm has much the same mission, since it is written for the express purpose of explaining England and the English to the Americans. The American author, Virginia Cowles, has compiled a remarkably readable and thoughtful Baedeker to interpret the peaceful revolution that is taking place in England today, an event whose results are just as far reaching, but vastly more orderly, as those that took place in France at the end of the 18th Century. The majority of American public opinion is undoubtedly sympathetic towards England and there is a genuine desire to see her get back on her feet, but at the same time we are inclined to be somewhat critical of some of the measures that are being taken to effect that recovery. The British may resent our attitude on this score and classify it as unwarranted presumption and none of our business. But when it is realized that the USA is subsidizing Britain to the tune of $1.20 per week per family, our interest and concern over so many social experiments begins to have some justification. We Americans are inclined to take rather a dim view, for example, of the current British government's nationalization of the health services, the coal industry, public carriers, and, recently, a move to take over the steel industry as well. Miss Cowles shows why many of the changes in the English scene are inevitable and have been a long time a-brewing. Further, as the records prove and the author is at some pains to point out, the idea of the nationalization of certain industries and public services is not a recent Socialist innovation. Such action in the past has been recommended by members of the Conservative Party, not the least illustrious of whom was Winston Churchill who advocated nationalization of the railroads as long ago as 1918. The author also shows the other side of the coin, e.g., when the Socialists attempt the nationalization of a highly efficient and profitable concern like the steel industry (as opposed to such poorly organized and money-losing businesses as the railroads represented), then the suspicion is bound to be rife, not only here but in England as well, that the party in power is wading in the treacherous pool of socialistic theory.

It seems to me that the author is inclined to take a little lightly the tremendous strength of the Trades Union Council. Having once heard a high official (he had just been made a life-time officer) in the Trades Union Council, when he was goaded and exasperated beyond his professional poise and calm, make the most extraordinary statements concerning the views of his organization relative to government by the duly elected representatives of the electorate, I am sure that the 90 British officers in the hall on that day would disagree violently with Miss Cowles when she says (page 128): ". . . the Labor Party is (not) dominated by the trade unions and therefore the trade unions (do not) dictate policy to the government."

But leaving aside this small personal view on the TUC, it is a pleasure to say that *No Cause for Alarm* is a

notably fine job of reporting the current English scene. To have competently accomplished this task in the space of some 300-odd pages is a feat in itself and Virginia Cowles is peculiarly well qualified to write such a book. An an American correspondent she covered most of the big events in Europe from the Spanish Civil War on; in 1945 she married an Englishman and is living in England at the present time. She has, therefore, an international background and a trained reporter's skill for writing of the great changes that England is undergoing. I cannot help but feel that the action is not quite as well taped as Miss Cowles recounts it, but perhaps this is due to my comparative unfamiliarity with all the facts with which the author is undoubtedly conversant.

No Cause for Alarm is an excellent book written about a country and a people whose continued existence and prosperity is just as much a matter of concern to us as it is to them — the English. I recommend it to your attention. **RMcT**

Naval Aviation . . .

HISTORY OF UNITED STATES NAVAL AVIATION — Archibald D. Turnbull and Clifford L. Lord, 323 pages, illustrated. New Haven: Yale University Press. $5.00

The development of a complex war machine is no simple matter under any circumstances. Naval Aviation, one of the most potent of America's weapons in World War II, was no child of painless birth and simple rearing. At every faltering stride of early growth it was beset by doubting Thomases and conservative opposition; its final strength perhaps lay in the fact that every step forward had to be proved and substantiated beforehand, leaving small margin of tolerable error anywhere.

From an impressive bibliography, including use of the official records of the Navy Department, Capt Turnbull, USNR, and LtCmdr Lord, USNR, have drawn a layman's history of Naval Aviation, sufficiently alive with the personalities of pioneers and heroes to interest the casual observer, and factual enough to impress the student of air power. This is the story of Naval Aviation in its early days, from the first aircraft flown by the Navy to the beginning of World War II; it is also the story of the men who carried the torch and paid for their sincerity, sometimes in loss of promotion, sometimes in death. Adm Moffett, Capt Chambers, Adm Towers, Mustin, Hunsaker, Cunningham, and the host of others who made their contributions to history and science, march somewhat grandly through these pages. For it was men as well as machines which made Naval Aviation the vital force for war and for peace, as younger men of the Naval service were to demonstrate in World War II.

With commendable restraint, the authors have avoided entering into the controversy between the pure air power theorists and the naval air power proponents. There were many differences of opinion which were never resolved; it is to the credit of Turnbull and Lord that they make no effort to furnish the answers to all questions. In all such matters, the subject itself has never been deserted, yet the factual record has been made complete in satisfying detail. Detail may be thought to be somewhat lacking in description of Marine Corps Aviation, but no essential is omitted at any point, nor should slight be implied. This is a Navy story. As such it is complete, thoughtfully presented, and satisfyingly interesting. It is earnestly recommended to every military reader and student for a better understanding of the background and the facts involved in one of our most violent organizational disputes involving the future of American military forces and policies. **EPP,Jr**

Future World . . .

NINETEEN EIGHTY FOUR—George Orwell. 314 pages, one appendix. New York: Harcourt, Brace & Co., Inc. $3.00

Nineteen Eighty Four, by George Orwell, is a "historical" novel about a world future which is so frightening that none of Mr Orwell's readers could conceivably want to live that long. The book is also possessed of such a hellish, logical versimilitude that there can be no doubt in your mind that Mr Orwell indeed presents at least a reasonable facsimile of what life in 1984 can become.

Without blunting the edged detail with which the author has studded his book, and without detracting from his continuing pattern of surprise, it is necessary to explain that *Nineteen Eighty Four* shapes itself about one Winston Smith, or "Smith 6079W", a minor Government functionary in the state of Oceania, whose capital is Airstrip No. 3, a city once known as London. Oceania — which is made up of the leavings of the former British Empire and North America — is governed by The Party, self-enslaved, semi-intellectual, all-powerful minority within a huge mass of unimportant beings known as *Proles.*

Life in Oceania is no bed of roses. A perpetual shortage of consumer goods, food and drink has become accepted as normal. In the home of every Party member is a *telescreen* (a word which I predict will catch on) through which the Thought Police watch you every moment from stations in the Ministry of Love, or national police headquarters. You cannot turn off the telescreen, day or night, and, what is worse, the dang thing keeps talking at you from compulsory nation-wide setting-up exercises in the morning to final nightly exhortations in preparation for National Hate Week. Children are encouraged to keep the Thought Police posted on household gossip through the medium of the children's organization known as the Spies. At puberty, (if female) they graduate into a club known as the

Junior Anti-sex League, which admits the need of procreation, but tries to make it as tedious and loathsome a process as possible.

Winston's job is as a rewrite man in the Ministry of Truth, the national propaganda bureau. Other major ministries, while we are on the subject, are the Ministry of Peace (war department, fully unified, it appears) and Ministry of Plenty (the outfit which rations everything and has made Victory Gin, flavored with cloves and saccharine, the national drink).

The rather special rewriting which Mr Orwell entrusts to his protagonist is of a kind which we are just now beginning to encounter in Russian "discoveries" of scientific importance. Winston actually spends his time editing *past* editions of the few daily journals published (by the Ministry of Truth, naturally) so that anyone consulting the file copies will find that they agree with what is now the current party line. One example will clarify this rather confusing statement. When a person in Oceania is wiped out by the Thought Police ("vaporized" is the word), he becomes an *unperson* whom everybody finds it healthy to assume never did exist anyhow. Every past written record that indicated the existence of an *unperson* is thereupon "corrected" by deletion of the *unperson's* very name or any reference to him. This process, which in a very mild form, is known among present-day historians as "revisionism", has reached such flower in Oceania that all existing books have been destroyed or rewritten to conform to the needs of the time. Nobody who has the slightest impulse to disagree with the Party's way of running things is permitted any landmarks of fact or, indeed, of philosophy, to prove that there ever was, could be, or will be a different, better way of life. *Thoughtcrime* — which means thinking anything out for yourself — is one of the most heinous of capital offenses. How right is Winston Smith, feels the reader, when the protagonist, on the verge of one of *Nineteen Eighty Four's* most telling scenes, muses, *"We are the Dead."*

The heart and soul of Orwell's book centers in the Ministry of Truth, and it is here — in spite of his truly horrible descriptions of the cellars of the Ministry of Love — that one finds his message. Without spoiling the book by inadequate paraphrase, this reader concludes that Orwell fears, more than anything else, the control of truth, opinion and thought, which is a keystone to Party rule. From this total control, Orwell demonstrates, springs every other abuse — including the main one, which is just too much Government.

In an era overrun by press-agents, by Information Services, by "voluntary censorship," by dubious overclassification, and by ever increasing canalization of information through the meshes woven by those who wish to mold public opinion, anyone in Government (which includes Marine officers) can see the ease with which present trends just might explode into future actualities every bit as grim as Mr Orwell's.

Reviewers are already acclaiming *Nineteen Eighty Four,* savage and telling as it is, for one of the great books of our decade. I am inclined to agree. If you wish to be intellectually shaken, paralyzed by unwilling fascination, and just plain scared for the shape of things to come, *Nineteen Eighty Four* can do the job, RDH, Jr.

Guadalcanal ...

HISTORY OF U. S. NAVAL OPERATIONS IN WORLD WAR II: THE STRUGGLE FOR GUADALCANAL — Samuel Eliot Morison, 373 pages. Maps and Pictures. Boston: Atlantic-Little, Brown. $6.00

This is the fifth round of a 14-round blow-by-blow description of a heavyweight fight in which the United States Navy retained its world championship. At this stage it was still anyone's fight, but by the end of round five the American Navy had changed from a retreating, bicycling, counterpunching protagonist to an aggressive, free-swinging fighter that had begun to create respect in his opponent.

Volume V covers in extremely interesting fashion the period from August, 1942, to February, 1943, when two great naval powers waged a bitter fight over a heretofore virtually unknown island 90 miles long by 30 miles wide. So bitter and determined was the struggle that 48 warships of the two nations went to the bottom of the Pacific, and more than 50,000 men died in the combined sea, land, and air battles for the island.

For those who were on Guadalcanal during those fateful days nothing can match it for sheer discomfort, physical hardship, and fearful uncertainty. But this gravel cruncher will have to admit that the naval activity around the island overshadowed in importance the ground fight. Whoever controlled the Solomons waters controlled the islands, air power notwithstanding, at this stage of the fight.

This volume opens with the 1st Marine Division's landing on 7 August 1942 and ends with Gen Patch's report on 9 February 1943 that the island was secure. In between these dates the Navy fought six major engagements and numerous lesser skirmishes that caused the watery grave between Guadalcanal, Savo, and Florida islands to be named Ironbottom Sound (Bay). Nowhere in the world is there so much ship metal in so small a stretch of water.

Four of the six major naval battles were fought at night, at close range, and in virtually unknown waters. Capt Morison's description of the apprehension and confusion in these pitch-dark melees is superb. He justly points out that the approach marches were like hunting for a Melanesian in a coal bin at midnight. Neither side dared reveal positions with searchlights. Very few ships

had radar at this time; the radar in use was comparatively poor, and most commanders were hesitant to open fire on radar contacts because IFF was nonexistent.

Most Americans will be surprised to learn that the U. S. Navy failed to win a clean-cut victory in any of the six major engagements. Exuberant newspapermen at the time hailed the Battle of Guadalcanal, November 12-14, as a complete rout of the Japanese forces. This was the fight in which Rear Adm Callaghan lost his life aboard the *San Francisco*. However, Capt Morison reveals that losses were pretty equally divided and that the American Navy's victory lay in the fact that it accomplished its mission in preventing Japan from reinforcing its troops on Guadalcanal. This, coupled with the fact that the United States entered most of the engagements with numerically inferior forces, caused the fights to be considered victories although losses were high.

Full treatment is given the major land battles. The Tenaru, Bloody Ridge, Matanikau, Kokumbona bring back unpleasant memories. Many heroic stories have been written about the ground action on Guadalcanal, but for the first time the author brings to light the overall tactics of both commanders which precipitated the hand-to-hand fighting.

The valiant work of the air squadrons based on Henderson Field is properly credited. Although the Japanese were able to bomb almost at will, increasing losses to the small group of fighters on Guadalcanal soon wore them down. Capt Morison states what this reviewer long has believed—that the Marines ashore were far more fearful of Japanese naval bombardment than of air attacks.

This book is by far the most authentic and complete story of Guadalcanal in existence. In the opinion of the reviewer it is also the most interesting. It is strongly recommended for the professional readers. JP

Navy Sailing Ships . . .

THE HISTORY OF THE AMERICAN NAVY—The Ships and Their Development—Howard I. Chapelle. 588 pages, halftones, plans, figures, appendixed, indexed. New York: W. W. Norton & Company. $10.00

In all respects this is a truly magnificent book: content, scholarship, illustrations, printing, and binding. The cost of its preparation must have been immense, and its compilation represents at least 20 years intermittent work on the part of the author. Most likely the book will not profit the publisher or author one dollar; but it probably will stand as the definitive work on its subject.

Only the title is misleading. This is not *The History of the American Sailing Navy;* it is rather (as the subtitle indicates) "The Ships of the American Sailing Navy." The present title is perhaps intended to parallel Mr Chapelle's classic *The History of American Sailing Ships.*

The scope of the book is tremendous. It chronicles the

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AIRBORNE WARFARE	MajGen James M. Gavin	$3.00
A SHORT HISTORY OF RUSSIA	B. H. Sumner	5.00
THE ART OF PLAIN TALK	Dr Rudolph Flesch	2.50

planning, construction, and, more briefly, the operational life of every naval vessel of any consequence, from gunboat and anchor hoy to frigate and ship-of-the-line, from the Colonial period to 1855.

The illustrations include a full-color frontispiece of George C. Wales' painting *President* and *Endymion*, 16 halftone plates picturing everything from carriage mounts for carronades to original sailmaker's plans, and 155 line figures, mostly scaled drawings of minor vessels. But the greatest attraction of the book is its 32 gate-fold, detailed plans of principal warships. Many of these are restorations or tracings of the designers' or builder's original "draughts." The publisher also has an arrangement by which an interested person can purchase full size copies of any of these plans.

The book's chief appeal will be to naval historians, scholars, and architects; marine artists; and model makers. It will also allow future historical novelists no excuse for the horrendous errors they have made in the past. If they should need such esoteric knowledge as the depth-of-hold of the schooner *Experiment* or the gun plan of the gundalow *Philadelphia*, they will find it here.

Perhaps of most significance to Marine readers is the development of Navy standards of design and construction. Early in our naval history the tenet was established that American ships should be larger and stronger than European ships of the same classes. This began with our frigates of 1798 and it continues to our cruisers and carriers of today. We also read the recurring pattern of wartime extravagance and peacetime parsimony; the politicians' search for a "cheap" naval weapon; the Navy's own bureaucratic, and sometimes bumbling, approach to design and construction. But there is also the Navy's insistence after the War of 1812 on the best of materials, careful construction, and painstaking inspection and maintenance; traditions which have fortunately descended to us. Most of the ships laid down in the period 1816 to 1840 were built so well that they served honorably, if outmoded, in the Civil War. Some had operational lives which extended into the '70s and '80s, and, excluding the several that have been preserved as memorials, at least one was still afloat in 1914.

For the lubbers (and how many of us know what a *port cill* is?) there is a brief nomenclature. The index includes a list of naval vessels 1775 to 1855, and the 50-page appendix devotes itself to such further detail as original specifications. Altogether, this book is a milestone in naval history. EHS

In view of the large number of book reviews now on hand and the limited amount of space available for this section, the GAZETTE *requests all reviewers to restrict their reviews to 800 words or less.*

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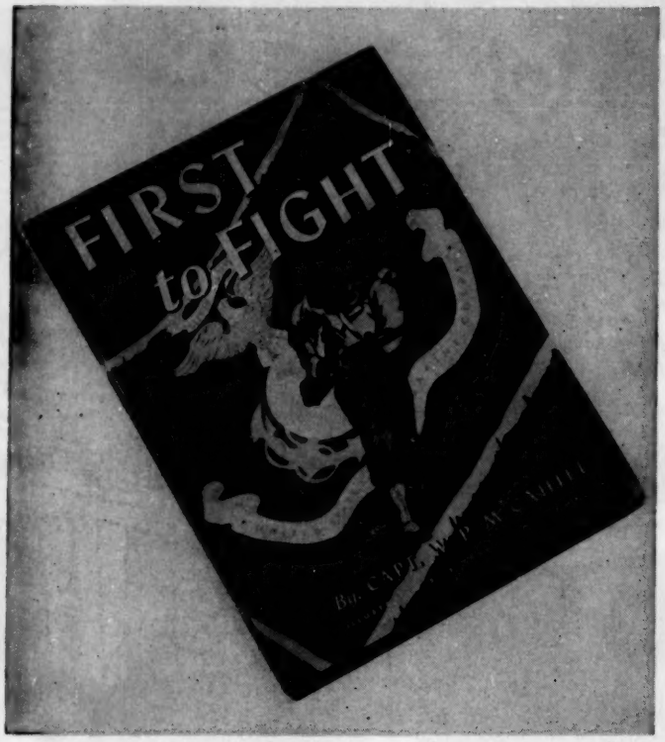
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